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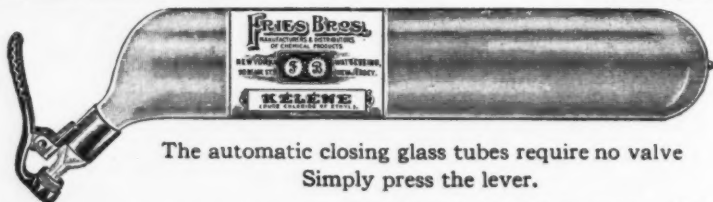
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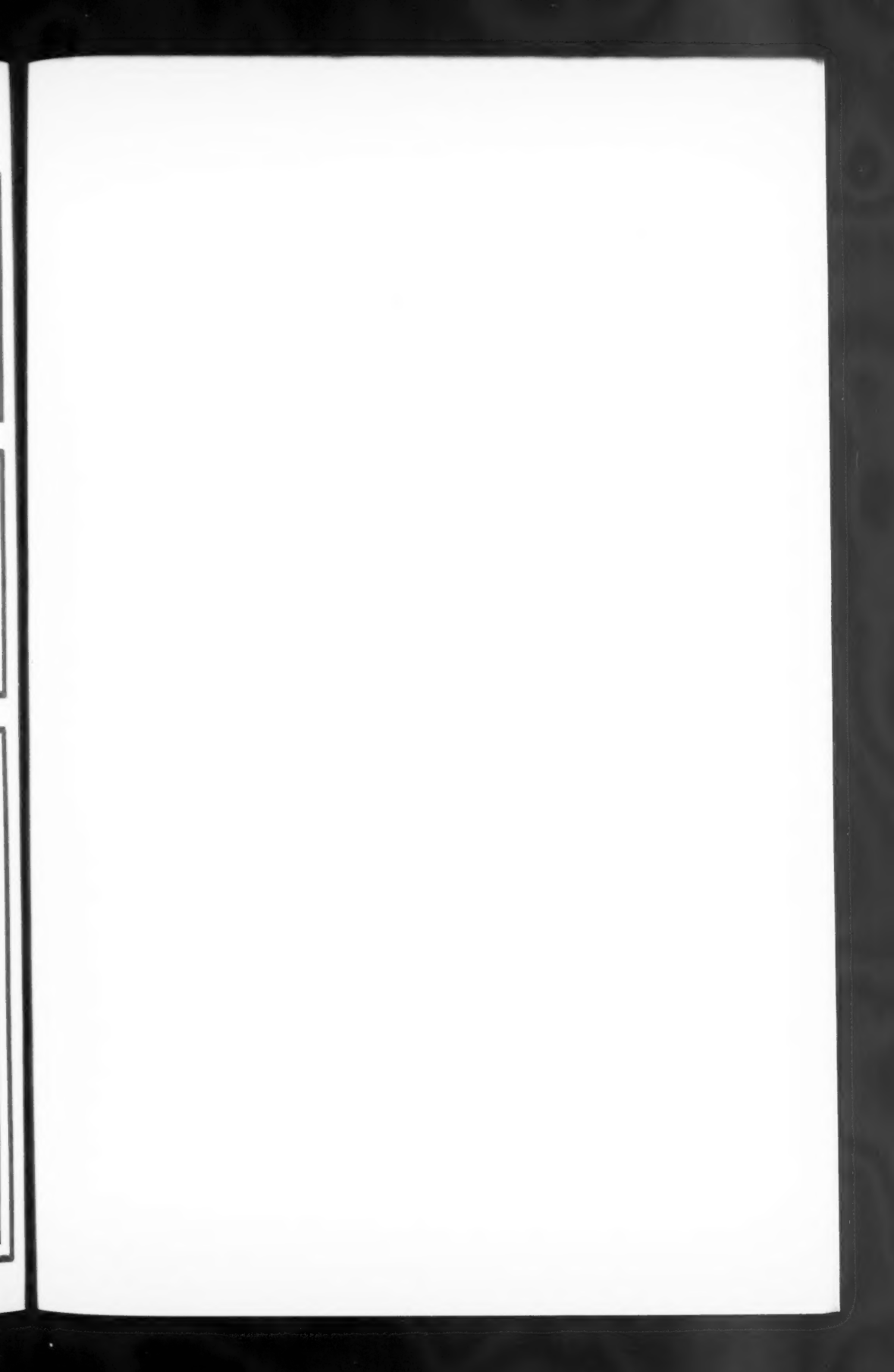
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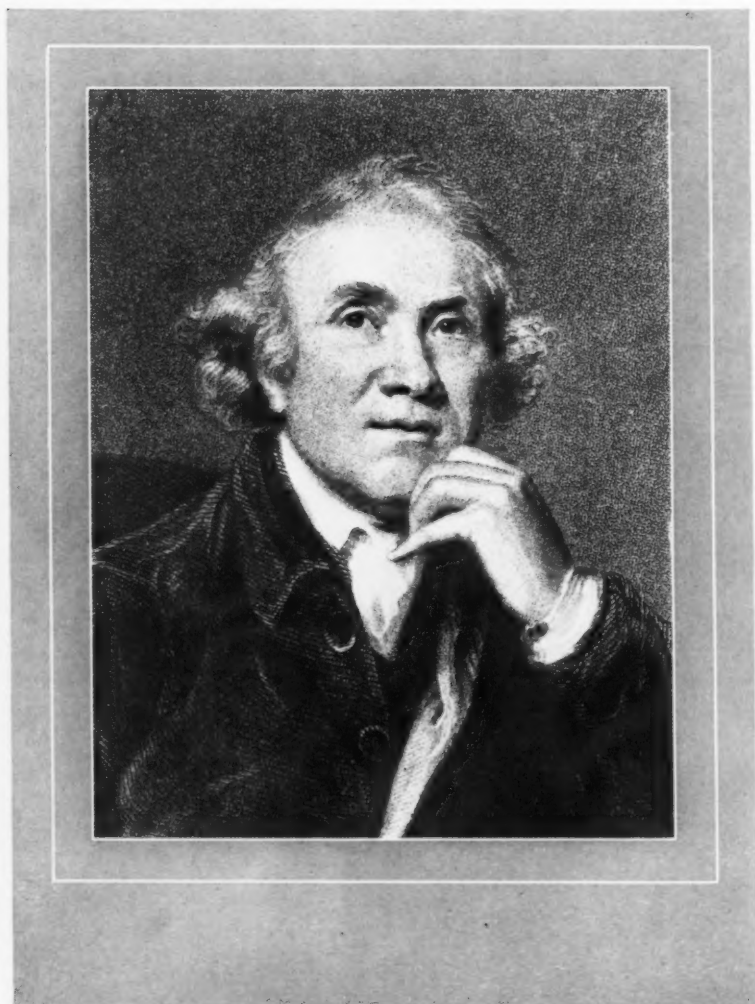
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JOHN HUNTER
THE FATHER OF SCIENTIFIC SURGERY

CLINICAL MEDICINE AND SURGERY

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John Hunter

ARE SILK purses ever made out of sows' ears? Those who knew, in his earlier years, the impudent, unruly, redheaded, school-hating young terror, Jack Hunter, and then had a chance to see the heights to which he rose in the world of science, must have thought so.

John was the tenth child of the old "Laird of Long Calderwood," born in 1728, in Lanarkshire, Scotland, when his father was seventy years old. His older brothers were sedately studying medicine, law and theology, while John was, improbably but joyously, trying to find out how tadpoles became frogs.

But when he was twenty he began to feel that he should be doing something worth while, and went to London, where his elegant and fastidious brother, William, was already famous as a medical man, to study anatomy with him.

William hardly knew what to do with this short, broadshouldered, awkward, unlettered country brother, with the vocabulary of a stable-boy and a taste for lasses and glasses in taverns, but, withal with a sparkling intelligence and an insatiable curiosity; but when he set him to dissecting a human arm, he promptly realized that this raw lad had the makings of a

great anatomist, and suggested that he take up the study of Medicine.

John's fondness for the refinements of formal education had not increased with the years and, after a taste of Oxford, he flatly refused to be bothered with Latin and Greek; but at the hospitals, where he studied under Cheselden and Percival Pott, his eagerness and industry were immense.

In 1754, he began to deliver lectures in his brother's school, but his rough speech and his tendency to change his mind about things, as his knowledge increased, did not tend to make him popular with the ordinary run of pupils. None the less, his real power as a teacher is attested by the fact that among his pupils were such men as Jenner, Abernethy, Astley Cooper, Parkinson and Physic (the "Father of American Surgery"), to mention only a few of the famous men who gained inspiration from him.

As Hunter's mind became ripened by experience, his passion for the study of natural phenomena increased and, not content with learning from books, he gathered about him, on his small farm in the outskirts of London, a veritable menagerie of all sorts of beasts, birds and reptiles,

which he observed and labored over, alive and dead, with indefatigable patience and zeal. He would dissect a mosquito or a worm with as much care and attention as he devoted to the examination of a buffalo, a tiger or a human body. It is related that he paid 500 pounds (which he had to borrow) in order to procure the body of the Irish giant, O'Brien, for anatomic study. He dissected and described over 500 different species of animals, and almost anticipated Darwin in the discovery of the basic laws of evolution.

These labors, which occupied from eighteen to twenty hours of every day, led to the establishment of the great physical monument which he left to posterity—the Museum, in Leicester Square, London, which bears his name and which was bought by the British Government and opened to the public in 1813, when the Hunterian orations were begun.

It is said of Hunter that he found surgery a mechanical art and left it an experimental science—that he was the man who “made surgeons gentlemen.”

Among his many important contributions to anatomic knowledge and surgical practice may be mentioned the discovery of the placental circulation (which William disputed with him); the development of a collateral circulation by anastomosing arteries after ligation, which led to the practice of proximal ligation, in continuity, in the treatment of aneurisms (the fibrous sheath of the femoral artery, upon which he did some of this pioneer work, is known as Hunter's canal); the ramifications of the olfactory nerve, the presence of the lacrimal ducts and many features of the lymphatic system; and the scientific study of the teeth, with the recommendation for the complete removal of the pulp when filling them.

Among his many writings (which had to be edited, for spelling and grammar, by his friends) the four outstanding ones

are: the treatise “On Venereal Disease;” “The Natural History of the Human Teeth;” “Observations on Certain Parts of the Animal Economy;” and the “Treatise on the Blood, Inflammation and Gunshot Wounds.”

In connection with the first-named work, his devotion to the search for truth at its fountain head—personal experience—is illustrated by the fact that, having accidentally inoculated himself with syphilis, he deliberately refused to take treatment, in order that he might study the disease at first hand. From these studies came the first differentiation between hard (Hunterian) chancres and chancroid; though he seems to have been confused about the nature of gonorrhea.

Hunter was practically recognized as a great man during his lifetime, having been a Fellow of the Royal Society; member of the Irish College of Surgeons; Surgeon-General of the Army; Inspector-General of Hospitals; Surgeon-Extraordinary to the King; and many other high-sounding things. But he never used any of these titles, signing all his writings simply, John Hunter.

He was a man of quick and violent temper, which was aggravated by the fact that he suffered from gout and angina pectoris. This unfortunate combination caused him to say, “My life is in the hands of any rascal who chooses to annoy or tease me.” And such, indeed, was the case, for he died, in 1793, of an attack of his malady, brought on by a bitter argument with some of his colleagues who disagreed with him, as was often the case.

The full measure of the stature of this remarkable man was not appreciated until after his passing, for his body was first buried in St. Martins-in-the-Fields, but was later removed to Westminster Abbey, where it rests with those of Newton, Darwin, Herschel and other world figures.

In forming an estimate of this versatile and almost paradoxical genius, we will do

well to consider the opening stanza of the poetic epitaph, written by his charming and gifted wife:

"Here rests in awful silence, cold and still,
One whom no common sparks of genius fired;
Whose reach of thought Nature alone could fill;
Whose deep research the love of Truth inspired."

Garrison says of him that he must be classed with such famous all-around biologists as Haller and Johannes Müller and, with Paré and Lister, as one of the three greatest surgeons of all time; while Samuel Gross recorded his opinion that, "With the exception of Hippocrates, the father of Medicine, John Hunter is the grandest figure in the history of our profession."

Medicine is the most difficult of sciences and the most laborious of arts. It will tax all your powers of body and mind if you are faithful to it.—Dr. Oliver Wendell Holmes.

THE FIRST PRIZE COMPETITION

THE TIME allowance on the first Prize Competition announced in these columns in January, was rather short and only two articles on "Colds" were received, so our whole March number was thrown open for the voting. The "polls" closed on April 30, at midnight, and the results were as follows:

The first prize (\$25) goes to Dr. James H. Hutton, of Chicago, for his article, "Endocrine Factors in Common Colds."

The second prize (\$15) is awarded to Dr. G. J. Warnshuis, Milwaukee, Wis., for his article, "Colds."

Dr. Joseph Colt Bloodgood, of Baltimore, receives the third prize (\$10), for his paper, "Cancer as a Public Health Problem."

Checks for the amount of these prizes have been forwarded to the winners.

The subject for the second prize contest—Arthritis—seems to have been ill chosen, as no manuscripts on that theme were received.

The third topic (The Future of Medicine) has aroused more enthusiasm, and

enough entries are now at hand to make it a real competition. These articles will be published in the July, 1930, issue of *CLINICAL MEDICINE AND SURGERY*, together with a voting coupon on which our readers may and are urged to express their preferences. The polls will close at midnight, August 31.

The fourth competition (Parenteral Medication) should bring so many responses that one issue will not be enough to contain them, for this is a subject of vital interest to *every* clinician, whether practitioner or specialist. The administration of remedies by hypodermic, intramuscular or intravenous injections is steadily increasing and is, we believe, destined to cover an even larger field in the future. These manuscripts must be in our hands not later than October 1, 1930; and, the sooner the better.

Articles for the Young Doctors' competition are beginning to come in, and we hope to obtain some good stuff for our readers from that source.

Any who are not familiar with the conditions of these competitions will find them on page 6 of the January, 1930, *CLIN. MED. & SURG.*, or if they have been so careless as to mislay that number, can obtain a reprint of the editorial by writing to this office.

It is quite probable that other competitions will be announced for next year, and we shall be glad to receive suggestions regarding timely and practical subjects.

Whatever our philosophy may be, in medicine we must be pragmatists; that is to say, we must adopt a theory which works.—Dr. R. G. Gordon.

SEEING THE WORLD

WHEN people talk about "seeing the world" they are generally thinking about a more or less hurried trip to London, Paris and Vienna, or perhaps to Cairo, Mandalay and points east.

The season is approaching when those whose ordinary activities are not sufficiently varied and interesting to keep them from

staleness (and that, unfortunately, means most of the population) will, if they have good sense, be planning how they will spend the customary period of respite from their vocations.

It is exceedingly well that one should gain as great familiarity as possible with the manners, customs, religion and way of life of other peoples. Such knowledge widens one's outlook and makes for tolerance, which is, perhaps, more necessary to wisdom than is any other ingredient in human character.

But wherever one goes and whatever exotic scenes may be presented before one's eyes, seeing the world depends, not upon the spectacles which are available for one's consideration, but upon one's powers of perception.

The city in which one lives, and the parks, fields and groves adjacent to it—even one's own backyard—are as much a part of "the world" as are Rome or Yokohama or the Grand Cañon. If we have not learned to see the things that are going on about us every day, our chances of having any better success in foreign lands are meager.

What is the color of young oak leaves, when they first put forth, or of the blossoms of the maple trees? When does the first dandelion or violet or hepatica or bloodroot open its bloom to the sun? How does the song of the thrush differ from that of the robin? What are the nesting habits of the swallow? The catbird? The crow? At what hour does the great summer star, Arcturus, rise in mid-June?

Those who cannot answer such questions as these with reasonable accuracy have small chance of returning from a "sightseeing" trip with any but the haziest impressions of the panoramas which have unfolded before them.

Let those who are deterred, by lack of time or cash, from availing themselves of the cultural and recreational possibilities of the Canadian Rockies, the Mediterranean

or Peru, consider the idea of procuring a reasonably good camera and a field glass and setting out, afoot, to explore the (generally) unknown country which lies within a radius of five miles from their door-steps. If such a pilgrimage is entered upon after or interspersed with a reasonable amount of preparatory study, its potentialities for physical, intellectual and spiritual growth and development are enormous.

Let no one feel that, because of pecuniary embarrassment or press of duties, he is cut off from the possibility of "seeing the world." If God has vouchsafed him eyes and curiosity and will, there lies at his disposal a considerable section of the planet on which we live—enough, if properly studied, to enrich any life with the joy of knowledge and understanding.

What a man sees depends, not only on what is actually presented to him at the moment, but on perceptual additions, due to prior knowledge and interests.—Dr. Bernard Hart.

THE BEST AGE

FROM time immemorial it has been popular cant, with a large proportion of the adult population, when observing children at play, to heave a windy sigh, roll up the eyes and murmur, "Ah, happy, happy childhood! The most beautiful and sweetest time of life! Would that I might be a little child again!"

Bosh and humbug!

Among all the sigh-heavers and eye-rollers there is not one in a thousand—except those perennial children who never grow up, no matter how long they live—who would exchange the powers and capacities for achievement and for mature enjoyment which come with adulthood, for the narrow and jejune pleasures of the prepubertal period nor for the turbulent and stressful excitements of adolescence.

If, then, neither childhood nor youth is the most desirable period of a man's life, what is the best age?

The answer is as simple, in its essence, as the consensus of human experience; and as complex, in its details, as the variations in human personality.

The best age, for any man or woman who has reached the full stature of physical, emotional and mental adulthood, is *the age at which the phenotype—the individual as he stands—finds himself.*

To the man of twenty-five, with health, strength and the dawning of a vision of achievement, that is the ideal age—the time of embarkation upon the sea of his productive life.

The substantial and "coming" citizen of forty, who has tamed his grosser passions to a reasonable degree, learned lessons from his mistakes, and proved his mettle as a player of the "great game," finds that the sense of his ability to do worthy things and, in large measure, to control his destiny, makes *that* the ideal age.

At three score, the capable adult has made a place for himself in his community, provided for his declining years, reached the pinnacle of his intellectual powers, and sees his children tentatively grasping the throttle of the great engine which we call modern civilization, and his grandchildren coming on to perpetuate his name and the world's progress. With all these things in view, is he not justified in calling the late summer of life the richest and finest of times?

And the octogenarian, who has lived sanely and fully, so that his physical frame is not racked by disease, has sailed beyond the tempestuous breakers of lust and personal ambition; past the shoals of prejudice and bigotry; through the sargasso sea of inertia and discouragement; and has dropped his anchor in the peaceful harbor of accomplishment. Knowledge, ripened by experience, has become wisdom; and sympathy, watered by the tears of bereavement and shone upon by the smiles of loved ones, has grown into the great

banyan tree of wide compassion. Can any age show such rich fruits as that of the sturdy, keen-minded old man?

The child is free of duties; but he lacks grasp and vision. The youth lives among sharp and high-flashing emotions; but is full of uncertainty and lack of purpose. He of the middle years has gained power upon the hour and a perception of his goal; but is burdened by cares and responsibilities. The old man sees the great picture whole and smiles, with a tear in his eye; but his physical powers have waned and his vehicle of mundane manifestation is ready to break up.

Every age has its own flowers of joy, and its own thorns among the roses. Every age is the best age, for him who has lived eagerly, freely, happily, unselfishly, *one good day at a time.*

That is the great secret! *Each of us has but one day to live—TODAY!* If we do this hour's job as well as we are able, each hour will be the best of our lives; each day the best day; and each milestone along the path of life will indicate the highwater mark—the best of all possible ages.

To see the World as Beauty is the whole end of living.—Havelock Ellis.

"JAKE" PARALYSIS

FOR SEVERAL months, reports have been appearing, from various sections of the South and Southwest, of a form of paralysis of the legs, appearing after drinking Jamaica ginger as a beverage. Sometimes an isolated individual was affected; but several cases in a community seemed to be the rule. No definite cause of the condition has been stated, nor has any treatment been authoritatively suggested. A nickname, "jake paralysis," has been given to the malady.

Now comes a report (not formally checked, for lack of time), from Dr. A. R. Bliss, dean of the School of Pharmacy, University of Tennessee (the state where

the condition has been most prevalent), to the effect that the chief denaturant used in the alcohol contained in the Jamaica ginger which causes the trouble is iso-propyl alcohol, which is stated, by Volwiler, to have a physiologic action similar to that of ethyl alcohol, but to be twice as toxic as the latter.

The Jamaica ginger ("jake") which has made all the disturbance is said to be decidedly different, in color and odor, from the pharmacopoeial article and to contain 83 percent of alcohol. It is often swallowed, neat, by the imbibers.

The picture of "jake" paralysis is practically typical of *alcoholic peripheral neuritis*—tingling, cramps and tenderness in the feet and legs (especially the calves), coming on two or three weeks after drinking the "jake;" progressive paralysis and wasting of the extensors of the legs and the calf muscles, producing foot-drop and "step-page gait;" loss of knee and ankle jerks; sometimes similar changes in the muscles of the forearms; no eye symptoms, as with methyl alcohol.

Alcoholic neuritis, under ordinary conditions, is generally the result of prolonged indulgence; but it would seem reasonable to believe that the ingestion of ethyl alcohol in such high concentration (nearly twice as strong as ordinary whisky), together with an admixture of the highly toxic iso-propyl alcohol, might bring on these symptoms more promptly.

Professor Matthews, of the University of Cincinnati, has suggested that a contributory factor in "jake" paralysis may possibly be a deficiency in vitamin B, and perhaps also vitamin C. Since vitamin B is known

as the antineuritic vitamin, this hypothesis appears reasonable.

Whether or not "jake" paralysis eventually proves to be alcoholic peripheral neuritis or not, it resembles that condition sufficiently closely to warrant proceeding with its treatment along similar lines, including: Strict rest in bed, for from 3 to 6 weeks or more; absolute abstention from all forms of alcohol; a generous diet, especially rich in sources of vitamin B, such as milk, yeast, whole-grain cereals, egg yolk, etc.; hot fomentations, followed by wrapping the infected limbs in cotton; guarding against contractures by splints and sandbags; relief of pain, by the use of bromides, salicylates, analgesics or iodides; and tonic treatment with arsenic, strychnine and, possibly, iron.

When the acute stage is past—and only then—the use of diathermy, massage and passive and active correctional exercises should be begun, and continued until there seems no probability of further improvement.

In general, the prognosis as to life is good, though cardiac weakness and respiratory paralysis should be constantly watched for and combatted, if they appear. Prognosis as to function is also reasonably good, but the period of convalescence is apt to be long, occupying many months.

These suggestions are offered, perhaps prematurely, with the idea that they be helpful to some of our readers in giving assistance to these patients. In any case, the treatment outlined can scarcely do harm, even if further investigation proves that the tentative diagnosis here advanced is inaccurate.



LEADING ARTICLES

Hyperesthetic Rhinitis and Asthma^{*}

By GEORGE B. RICE, M.D., Boston, Mass.

HYPERESTHETIC rhinitis and asthma are discussed together because they are frequently closely associated, and the first symptom, either in its chronic or periodic state, is often the first stage of the second. Asthma and bronchospasm are synonymous terms, although the latter is more definite, and in more modern usage. The terms anaphylaxis and allergy are also frequently used to denote a systemic condition having varied manifestations, and are closely associated with the symptoms recorded as the title of this paper.

One who has studied the literature of these conditions is amazed and confounded by the abundance of material available, varying from books to thousands of reprints, and most of it leads to no satisfactory conclusion regarding a definite method of cure. In this voluminous literature one will find isolated cases of supposed cures from a great variety of methods, such as nasal and sinus operations, and the treatment of patients, based upon skin tests for the purpose of discovering what foods, pollens or emanation cause a sensitization reaction.

SUGGESTED ETIOLOGY AND TREATMENT

General surgeons have contributed to the treatment of asthma by resection of sympathetic ganglia, and cures have been reported.

In a recent paper I quoted from an article, written by Dr. Hiram Byrd, on pathologic currents and the effect of cocaineizing the sphenopalatine ganglia in hyperesthetic rhinitis and asthma. Cures of this latter condition have been cited by him. An at-

tempt has been made to correct the constitutional state by the administration of calcium salts, but Cottle failed in his attempts to demonstrate a close relation between the absence of calcium salts, hyperesthetic rhinitis and bronchospasm¹.

Cauterization of the sensitive areas in the nose was recommended thirty or more years ago, but is now discredited. X-ray treatment was, at one time, lauded as a panacea, but clinical experience has proved it to be valueless.

Again, we thought that the ultraviolet rays were palliative, and perhaps curative, in their effects upon those suffering from varied allergies. There seems to be some reason back of this contention. We know that the ultraviolet rays produce hyperemia of the skin and underlying tissues, and possibly stimulate the function of the endocrine glands and increase metabolism. Certain clinical changes in the blood are produced by this agency. An increase of calcium and the retention of phosphorus are known results; and the antibacterial efficiency of the blood is increased.

A few months ago, Drs. Rackemann and Tobey² studied 1,024 cases of asthma. Their conclusions were that there is no specific vaccine, and that any improvement noted is brought about by increasing resistance and by improved metabolism. Dr. Tobey thought that operations might be beneficial in the 65 percent of patients showing nasal disease, but, on the whole, that these procedures were of doubtful value.

Another observer thinks that quite a percentage of cures has been obtained by radical antrum operations on those asthmatic patients showing fibrosis of the lining

^{*}Read before the Hughes Medical Club, Boston, Jan. 5, 1930.

membrane, with infiltration, but without pus.*

Autocondensation, by means of high-frequency apparatus, has been tried, and as it increases the elimination of waste products, it is, so far, beneficial.

Endocrine dysfunction has been considered as a causative factor. Brown, in his book on asthma, published in 1917, gives 213 references and theories, and comes to no satisfactory solution of the problem, except his own theory of chest exercises; while the production of anaphylaxis is differently theorized upon by many observers, among whom are Besredka, Friedberger, Moro, Vaughan, Wheeler and Nolf's.

In spite of these isolated cures from various kinds of treatment, the medical profession, as a whole, seems to be as much at sea as ever, and there has been no generally accepted, definite method of treatment.

It would seem that the less known about a disease the more is written about it, and the greater part of our literature on these subjects indicates a groping in the dark, in the vain hope that, somehow and somewhere, a cure will be found.

ASTHMA A TOXICOSIS

Recognizing this dilemma, about twenty years ago, Dr. Burton Haseltine, of Chicago, conceived the idea that a fundamental condition must exist which would account for asthmatic attacks in a large percentage of cases, and that, when found, it would be possible to formulate a method of treatment which would prove permanently curative. At about this period, Dr. James Adam, of Glasgow, Scotland, undertook experiments in the same direction. Neither knew of the other's work, but they arrived at the same conclusion, viz: That most asthmatics are toxemic, due to bacterial or non-bacterial causes.

At the present time, Dr. Adam's experience covers twenty-five years, and his conclusions are based on the observation of over 1,000 cases.

Dr. Haseltine and his associates have studied an equal number or more, and have come to a process of reasoning which I shall try to formulate. Haseltine says, "Toxic state, producing endocrine dysfunction and abnormality of the neurophysiologic balance; alteration in the chemical constituents of the blood; ethmoid irritation".

Toxicosis, then, according to the Chicago school, is one of the fundamental states, and may arise from a variety of conditions—centers of focal infection, such as teeth, tonsils, sinuses, gall-bladder, gastrointestinal canal, etc.; deficient elimination of waste products, due to inactivity of the skin, bowels or kidneys; errors of diet or habits of living; and unfavorable environment.

The nasal, bronchial or skin allergies are all symptoms of toxicosis, and there is always present an over-excitability of the nervous system, either hereditary or acquired. When hereditary, early symptoms are frequently manifest, such as the alternating eczemas and asthmas of babies, while the existence of an abnormally irritable end-organ—almost invariably the ethmoidal area of the nose—has been demonstrated. This may be caused by "cold" or influenza infections, with resulting ethmoiditis and, perhaps, polyposis, soon becoming established as a chronic state. Dr. Haseltine has called the ethmoid region the "trigger area."

NERVE PATHWAYS

A good many years ago—perhaps forty—Dr. Seiler claimed that bronchospasm was a nasal reflex, and he explained the phenomena as follows: "The anterior nerve supply of the nose is from the ophthalmic branch of the fifth nerve; the posterior nerve supply from the sphenopalatine ganglion; and the nerve terminals intermingle. Nasal irritation and referred bronchial spasm are explained by the nerve paths to the bronchi, by way of the sphenopalatine ganglion, vidian nerve, the carotid plexus and the bronchial plexus."

Haseltine explains the nerve paths of referred spasm as follows: "It may occur either through the ophthalmic or the superior maxillary division of the trigeminus, either with or without relationship to the sphenopalatine ganglion. This reflex arc is from the trigeminus, by means of the collateral neurons to the vagus nuclei, which send efferent impulses to the musculature of the bronchioles.

These impulses may be, to some extent, subject to voluntary inhibition, but are usually involuntary, and the association with the cervical sympathetic through its vagal connection is intimate."

Byrd calls the excess transmitted energy of the human body "pathologic currents,"

and surmises that there is a continuous conversion of chemical energy into electrical'.

CLASSIFICATION OF PATIENTS

Dr. Alvin LaForge has for many years collaborated with Dr. Haseltine in his research work. He divides his cases into categories; one, two, three, four and five, these divisions being made only after the most careful study of the patient's condition and, as will be seen, each patient presents a fresh problem'.

Category one includes all pathologic conditions, which, from their nature and location, could be the sole exciting cause of the irritation to the neural mechanism of bronchospasm. Among these conditions are laryngeal tumors; nasal and accessory sinus disease; a foreign body in the lung; and, rarely, irritation from a foreign body in the external auditory canal.

Category two includes all pathologic conditions which, from their inherent nature and location, cannot possibly incite bronchospasm, but can aggravate and intensify a co-existing asthma by inducing toxicosis; that is, foci of infection, with absorption of bacterial products. These conditions include tonsillitis, dental infection, tubal infection, rectal fistula, pleural empyema, infected gall-bladder, etc. It must be distinctly understood, he writes, that the exciting cause of bronchospasm is a nasal or sinus irritation, and here, in a limited number of patients, we may find both the source of the toxicosis and the reflex exciting cause.

Category three includes all conditions which retard the elimination of waste products. LaForge thinks that an abnormal retention of waste can induce a state of toxicosis without the presence of a focus of infection. These are: Constipation, deficient urinary excretion and sluggish skin activity.

Category four contains cases of gallstones without demonstrated infection, hemorrhoids, uterine fibroids, ovarian cysts, intestinal diverticuli, adherent appendices, etc. These conditions do not act directly in inciting a bronchospasm, but do retard recovery and interfere with the remedial measures.

Category five includes patients who have conditions simulating asthma, but who do not have a true bronchospasm. Patients in this class are often erroneously diagnosed as asthmatics, but their dyspneas are from

heart conditions, aneurysm, nephritis, pulmonary neoplasms, hydrothorax, etc.

Dr. Cameron, of Northampton, England⁸, has made a most careful study of the blood and urinary chemistry in its relation to the asthmatic patient. In a recent paper he emphasizes the underlying conditions as follows

- 1.—A basic toxic condition.
- 2.—An unstable nervous system.
- 3.—An ethmoid implication.

He has given up vaccines and desensitizing methods, although 39 percent of his patients presented distinct allergic symptoms; but, irrespective of this, all improved under treatment and became normally desensitized. Blood examinations in all his cases gave evidence of toxicosis, but time will not permit me to go into minute details of those blood findings, although the reports are extremely interesting. Definite changes are: alkali reserve lowered, calcium lowered, urea slightly lowered, uric acid raised, erythrocytes raised, amino acids raised, and eosinophiles increased. Urine tests showed a high specific gravity and, nearly always, urate deposits. The proteid is always increased in proportion to the toxicosis. Indican is often present.

This study and classification of Dr. LaForge enables one to make a very accurate prognosis. Age is a great factor in deciding whether a cure is possible or not, as well as the length of time the patient has been a sufferer.

TREATMENT

The treatment devised by Drs. La Forge and Haseltine should be carried out by the internist and rhinologist, working in close relationship.

LaForge lays great stress on the necessity of preparing the patient for extended treatments. In the milder cases it is possible to carry out treatments at his home and in the office; but when the toxicosis is very marked and the patient has suffered from bronchospasm for a long time, hospitalization for from two to three weeks is necessary.

Intensive treatments in the hospital consist of hot packs, to promote diaphoresis; drinking from ten to fifteen glasses of water daily; the thorough cleansing of the intestinal tract by colon irrigations and a cholagogue laxative. One semisolid and two or three liquid movements are required daily.

The diet is not much restricted during the treatments and no attempt is made to give foods based upon skin protein tests. Whether the patient is hospitalized or not, daily treatments are given, to correct the ethmoiditis or ethmoidal irritation, which is usually present. Radical surgical procedures, in any region, are not made until the patient has shown evidence of improvement in nasal and general conditions.

Apart from nasal surgical operations, the daily treatments consist of colloidal silver packs, as devised by Dr. J. I. Dowling, of Albany, some fifteen years ago¹⁰. A ten-percent solution is used—Argyrol preferably, in my practice—and the nose is carefully packed with small, but long, tampons of long-fibered cotton. These remain in the nose for varying periods, depending upon the reaction, which is manifested by sneezing, watery discharge and lachrymation, and subsides in from fifteen to forty-five minutes. Sometimes the pack is repeated.

On removal of the packs they are found to be bleached, and the nasal discharge is thick—often mucopurulent—and considerable in quantity. After two weeks of this daily treatment the congestion will have subsided, ventilation and drainage of the sinuses will have improved, and the bronchospasms will have ceased or become greatly modified. Now necessary surgical operations may be carried out with an assurance of permanent relief.

My own experience in carrying out these procedures has not been extensive, compared with that of Drs. Haseltine and LaForge, but I have been able, in many cases, to bring about a cessation of the bronchospasm and improve the patient's health to a marked degree. One very satisfactory fact in connection with this method of procedure is that it is based upon sound reasoning. It is constructive, helpful in correcting any abnormality, and it therefore offers great hope of permanent results.

A number of clinicians in various parts of the country, since adopting this plan of treatment, have reported cures of asthma in patients for whom they had previously tried all the usual methods, without benefit.

In the course of treatment, palliation may be necessary. Epinephrin chloride: 1:1000, in doses of from 5 to 10 drops (0.325 to 0.65 cc.), hypodermically, will relieve the bronchospasm for several hours. In very

severe cases, $\frac{1}{8}$ to $\frac{1}{4}$ grain (8 to 16 mgm.) of morphine can be added to the dose, and the action of the epinephrin thus prolonged. Inhaling the fumes of burning saltpeter and stramonium gives temporary relief. I have found that increased elimination is quickly brought about by the use of strontium iodine, $\frac{1}{2}$ ounce (16 Gm.); tincture of lobelia, 2 drams (8 cc.); essence of pepsin, 8 ounces (250 cc.); Sig: one teaspoonful, in water, three or four times daily.

I shall relate two cases from my practice, selected from ten or more patients who may be called cured.

CASE REPORTS

Case 1.—Ella M., age 16, was seen, in an out-of-town physician's office, in April, 1923, suffering from asthma and nasal obstruction. She was anemic in appearance, underweight and mentally dull. I shall not go over the history of the case in detail but, as briefly as possible, give the salient points.

The nasal obstruction proved to be polyposis, a result of ethmoiditis. Her asthmatic attacks were frequent and severe. Two weeks later, at a suburban hospital, large masses of polypoid tissue were removed, but the follow-up treatments seemed almost impossible to carry out, because of the distance of her residence from Boston, and her poor financial circumstances. Partial relief followed the first operation, but both antrums were found to be suppurating, and the polyposis continued.

Dietetic regulations were prescribed and, later, the antrums were operated upon. The patient was partially relieved of the bronchospasm by these measures and was able, the next fall, to make regular visits to my office, where I carried out the Argyrol pack treatments for a considerable period.

During the interval of treatment the patient was told of the wonderful results obtained from x-ray treatments, and went to a radiologist for some weeks. No improvement was noted from these treatments but, by persisting in the local dietetic and internal remedial treatment, she gradually improved, the nasal condition cleared up and the bronchospasms ceased. From an anemic, listless, mentally-dull patient, at the end of three years she was strong and vigorous, mentally alert and able to contribute generously to the family support.

In October, 1929, after a period of three years, the patient reported to me again. I found a slight return of the polyposis, and she was having mild attacks of asthma. The polyps were removed, the nose treated for a few days, and the patient was again free from trouble, both nasal and bronchial.

The strontium iodide compound was used throughout her treatment. Here was a case where the focus of infection was in the sinuses, including the "trigger area."

Such cases need watching for a long period, and occasional treatment with the

colloidal silver packs will be necessary before a final complete cure can be obtained.

Case 2.—Miss F., age 28, consulted me for laryngeal spasm, in November, 1899. Under dietetic regulations she recovered from this dysfunction, and I did not see her again for three years, when she began to have recurring attacks which were most severe; but it was not until November, 1928, that she came unreservedly into my care. Her general health was then very poor, and she suffered almost every night from severe attacks of bronchospasm. She had, in the past few years, tried various methods of treatment, including a stay of some weeks in a New England sanitarium. At this time she also complained of dyspnea, seemingly apart from the asthmatic condition.

She was then 57 years old. Her father died at 62, of heart disease, following chronic nephritis; and her mother at 67, of heart dilatation. She had a double mastoiditis in 1918 (although I did not see her at that time) and acute arthritis in her left elbow some years ago.

At the sanitarium a diagnosis was made of mild ethmoiditis, a "tired heart" and bronchial asthma. Before going farther I sent her to a heart specialist for examination. He wrote me that her case presented a difficult problem for, although she had an undoubted bronchial asthma, it was difficult to recognize a dyspnea due to heart weakness. His final report was: Cardiosclerosis; heart dilatation; hypertension; fetal rhythm; cardiac insufficiency.

On receiving this report I went over Miss F.'s history and the nature of her repeated attacks, and came to the conclusion that here was probably a case of toxicosis, and that the cardiac and bronchial conditions were symptoms of this underlying condition.

The differential diagnosis of so-called cardiac asthma is not always plain. Both cardiac dyspnea and bronchospasm come on frequently after midnight, following a quiet sleep. In bronchospasm it will be noticed that expiration is difficult and, in cardiac dyspnea, inspiration. A history of increasing heart weakness, corresponding to the frequency of the attacks, will be noted. Cyanosis may be present in both cases during an attack and, if pulmonary edema is present, the chest sounds may be confusing. In true bronchospasm the percussion note will show increased resonance, even without an emphysema. Bronchospasm is temporarily relieved by the injection of epinephrin; cardiac dyspnea is not relieved in this way. Cardiac spasm is aggravated by slight exertion; bronchospasm is not, but coughing and laughing will frequently bring on a mild attack.

Miss F.'s attacks of dyspnea were now quite pronounced, and she was unable to go up stairs without difficulty, and without stopping to rest. Early-morning and night air caused much discomfort, and she took very little outdoor exercise. Her respirations were 24 to 30, the latter after slight exertion; pulse rate, 80 to 90; blood pressure around 160 mm. systolic, 130 diastolic, both by auscultation and palpation. Urine and blood reports gave evidence of deficient waste elimination. Examination of the sinuses, tonsils, and x-ray study of the teeth were all negative,

except for a mild ethmoiditis. The bowels were constipated, and the patient had resorted to laxatives. I made a good many tests, and found a reaction to chicken, lamb, eggs, tomatoes and horse dander.

In November, 1928, the patient came into the Fenway Hospital, where I gave her the elimination treatment, as outlined by Dr. La-Forge. She responded well and, in a week, was relieved from bronchospasm entirely. The nose was treated daily with Argyrol packs for two weeks, and every other day for the following week.

Miss F. left the hospital on December 22. The heart needed support at intervals, so digitalis was given, and finally crataegus, ten drops (0.65 cc.), three times daily.

After leaving the hospital, she reported to me once a week for a month, then once a month until the present time. She still takes crataegus, and this seems to keep her heart in good condition. Occasionally, following a cold, I have given her the strontium iodide compound, with other indicated remedies. She is free from asthma and dyspnea; has gained in general health and strength; is able to work about the house; drives her car, and attends social functions in a normal way.

I have restricted her diet to plain, simple foods, with fruits, nuts and vegetables; little meat; plenty of water, with regular habits of living. Her bowels have not been constipated for almost a year—since leaving the hospital, in fact.

In reviewing these cases I do not wish to imply that my results in the treatment of asthmatics have been uniformly good, but I have seen a good many cases similar to the first type recorded, and have been able to bring about partial or complete relief in a good proportion of them.

Let me repeat that one of the strong points in the plan of treatment is that one can make a prognosis, in the majority of cases, and can then intelligently carry out a definite course, which will, in almost every case, result in general improvement of all abnormal conditions.

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The Periodic Health Examination

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THAT the periodic health examination movement has a wide field of usefulness is, perhaps, conceded by everyone. To keep the well person well is the most fundamental problem of the doctor. Periodic health examinations are the solution of the problem of keeping people healthy, so that the development of serious conditions in those approaching sickness may be postponed.

The experience of great insurance companies, as well as that of doctors, indicates the value of regular, repeated physical examinations, for those who wish to remain well and to live long. The principle is that of nipping any disease in the bud.

The old idea of the doctor's work was that it was limited to sick people—that no one had any use for a doctor until he had contracted some disease and that the diseases which afflicted men and women were due to mysterious causes which could not be controlled. We know better now. Those diseases which, up to fifty years ago, were called plagues and pestilences are now called preventable diseases.

Periodic health examinations of all persons have been recommended by progressive sanitarians for many years. The original suggestion, in fact, seems to have been made more than half a century ago, but only within comparatively recent years has the movement received considerable impetus and development, which promises to make it a real and important factor in the physical welfare of the nation.

The examination of the apparently healthy is not entirely new. Certain age groups have been examined extensively for some years; healthy infants at the infant welfare conferences and in private practice; school children on entering school and at intervals thereafter. In many universities and colleges, students are examined on entrance; many industrial establishments have workers examined when they employ them, and some, at stated intervals thereafter; some of the insurance companies offer their policy holders physical examinations at stated intervals.

A number of semi-public organizations have for several years provided such exam-

inations; a few dispensaries, in some of the large cities, have made provisions for periodic physical examinations and some states require a general health examination before marriage. While this latter requirement was mainly advanced as a means of checking the spread of venereal disease, its wider significance in the field of preventive medicine has been recognized. Such examinations involve both sexes and include an investigation of heredity. Whatever argument may be advanced for periodic health examinations in general, may be used with greater force at the time of marriage, when the interest of an unborn generation is also at stake.

WHAT IS A HEALTH EXAMINATION?

A health examination is a thorough physical and mental appraisal of an individual, which discloses the exact state of his health and points the way to longer, fuller, happier and healthier life. It is a necessary periodic stocktaking, revealing possible faulty habits of hygiene needing correction; detecting incipient disease in a curable stage; and is the best preventative method of warding off possible future ills, suffering and untimely death.

Long before health examinations were ever thought of, medical inspections of school children were instituted, in 1892, as a routine procedure. At first only contagious diseases were looked for, but, in 1895, more general examinations were given. Life insurance companies have examined prospective risks for many years and recruits for the Army and Navy have been looked over, as a regular procedure, for a long period.

The first attempt to offer periodic health examinations to the general public on a large scale, however, seems to have been established about 1914. Most of the persons examined were found to have physical impairments. Usually, the individual is ignorant of these defects and, in most instances, they could have been prevented. Of course, not all of these defects are disabling, but most of them may retard the efficiency of the individual to some degree and keep him below par.

The physical findings of the Army draft, during the World War, have been rather thoroughly discussed, quite copiously alluded to, and often referred to as "the horrible example." The Army draft was, however, the only real national physical examination which this country has ever had. About four million male persons, between the ages of eighteen and forty-two, were examined.

The resulting figures of defects serve as an index to the condition of the whole country, bearing in mind that they apply only to men in the prime of life. In the first and second draft, nearly 500,000 men were found entirely unfit for service. Of about two million or more men called to service, nearly one-half had physical impairments.

If anyone had any doubts at all, this summary of defects, found by actual experiences in examining apparently normal individuals, should dispel them forever. So much for the necessity of health examination.

WILL THIS EXAMINATION PREVENT CANCER, ETC.?

Will this examination prevent cancer or colds or rheumatism or having to wear stronger glasses as we grow older? may be asked.

The answer is: Yes and no! Many a person has been found with early cancer of the lip or skin or breast, at a stage when prompt and simple surgical removal has cured the trouble. Many a cold is the result of a poor condition of health, particularly in children who neglect the daily bowel movement, or are improperly clothed.

That much disease could be prevented by periodic health examination, is undoubtedly true; but that, in the present state of medical science and art, all disease could be abolished by such practice is wholly untrue. Medical men must take care not to mislead laymen into ill-formed expectations.

Health examinations will not prevent old age nor the gradual increase in far-sightedness, or "old-sightedness," that comes on at about forty-five years; but many thousands of persons, whose records of these examinations have been studied, have, not only been helped to live longer, but also to be sturdier and healthier and enjoy more

comfort and happiness by following the advice of the physicians who made such examinations.

PRECLINICAL MEDICINE

This, necessarily, brings us up to a new field for medical activity; namely, pre-clinical medicine.

When a leading physician announces that "preclinical medicine is destined to grow in scope and importance," presumably to become something very familiar and popular, the average individual may become curious, if not skeptical. What is pre-clinical medicine, and why should it grow?

The seemingly technical term is, in fact, nothing more than disease prevention, that calls for action on the part of both the physician and the layman. To the latter it means simply taking care of one's health; to the former it means reminding the individual of the steps necessary to this end and helping him to take them. It is proclaimed that preclinical medicine is sure to increase in scope and importance, and that the practice of medicine, in the last analysis aims to promote health and long life.

The surest method of obtaining that end, it is now being seen, is, not in treating the sick, but in preventing sickness—in dealing with the individual before he becomes a subject for clinical procedure. Here the medical health examination, with instructions as to the best means of maintaining health, is important. I am sure of the value of such examinations and the consequent spread of medical knowledge, but to date the service has been within the reach of only a few, or select classes of the people. The trouble is with the average physician, who has not stressed the importance of regular physical examinations, perhaps because of the "financial complex"—the feeling of the physician that the individual is likely to think of such advice as a bid for practice.

Perhaps a good part of the public does regard the health examination in that light. But the condition is only an invitation to medical authorities to disseminate health knowledge more widely. This condition can be overcome, and the general practitioner has more power than any one else to bring about this desirable change.

Treatment of Lobar Pneumonia by Intrapulmonary Injections of Patient's Whole Blood[†]

By K. P. A. TAYLOR, B.S., M.D., *Quirigua, Guatemala*

THERAPEUTIC application of auto-genous immunity principles and protective antibodies formulated by pneumococcal infection, has frequently been practiced in combating postoperative pneumonia, influenzal pneumonia, and to a lesser degree, lobar pneumonia. To the first of these, autohemotherapy has been applied by intramuscular blood injection; influenzal pneumonia has been subjected to treatment by transfusion of convalescent (immune) citrated blood and by the injection of convalescent human serum; while a few reports testify to the usefulness of intramuscular injection of a patient's blood in lobar pneumonia. The present paper emphasizes the feasibility of introducing whole blood (and other appropriate agents) into an apparently unutilized zone, the intrapulmonary tissues.

AUTOGENOUS IMMUNE BODIES

The existence of abundant evidence that human blood serum is endowed with immune substances of varying degrees of resistance, during the course of lobar pneumonia, furnishes the rationale for all modes of treatment designed to utilize these substances and to enhance their effectiveness.

Kolmer¹ states that pneumococci produce small amounts of exogenous toxins, larger quantities of endotoxins, and aggresin-like substance "S" (Avery), influencing phagocytosis. Recovery from pneumonia, according to this writer, is due largely to the development of protective antibody, just as the quantities of the various toxins in lung and blood are of primary importance in prognosis. Kolmer further attributes the favorable effect of antibody solution or serum, upon Type IV infections (for which antibody is lacking), to non-specific protein reaction.

Cole² supports Tillet's demonstration of "non-type-specific humoral factors" con-

cerned in immunity to the pneumococcus, but restates his conviction of the relatively greater importance of antibodies specific to the existing type and evaluates most highly, in prognosis, the presence or absence of septicemia. Neufeld and Dochez have shown that when recovery from pneumonia occurs, the patient's blood has acquired the same immunologic factors contained in immune horse serum. It is not unreasonable to suppose, therefore, that insufficient antibody formation and deficient antibody concentration in the blood and pulmonary tissue are the principal factors in pneumonia mortality.

AUTOHEMOTHERAPY

During the past decade, in America, attention has virtually disregarded the natural immunologic substances elaborated during the course of pneumonia. In their stead, interest has been centered upon the typing of pneumococci and production of specific antisera. MacLachlan and Fetter³, McGuire and Redden⁴ and Ross with Hund⁵ reported amazingly good results from the use of convalescent serum, immune citrated blood, and whole blood in influenzal pneumonia. These agents were employed intravenously, during the influenza epidemic of 1918, and have since received little or no attention.

It is to European writers that the possibilities of utilizing the inherent immunologic properties of patient's blood have most appealed. Autohemotherapy has assumed an important part in the treatment of postoperative pneumonia upon the continent, its application having witnessed a gradual restriction from a wide field of infectious diseases, to postoperative pulmonary infections and pneumonia. The sites of blood injection have been almost exclusively intramuscular and, to a very limited extent, intravenous (defibrinated blood).

Belliboni⁶ in an extensive review of the earliest literature of autohemotherapy,

^{*}From the Hospital, Guatemala Division, United Fruit Company.

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found its chief application in certain types of tuberculous pleuritis. The revival of the procedure by Vorschütz and Tenckhoff¹ and its exclusive application to postoperative and lobar pneumonia have resulted in extensive use of the method, and reports which are generally favorable. Vorschütz and Tenckhoff report 3 lobar pneumonia cases with favorable termination.

The central interest of these and other continental investigators has been postoperative pneumonia, though Rhode² and Kaum³ report success in the application of autohemotherapy to lobar pneumonia. The former states that the method is almost always successful in early cases. Favorable reports upon postoperative cases have issued from Graefe⁴ and Schaak⁵. Schwartz⁶ used autohemotherapy in 120 cases of postoperative pneumonia and bronchitis. Four (4) fatal cases revealed lobar pneumonia at autopsy. He considered that autohemotherapy has reduced the mortality of postoperative pneumonia 75 percent. Siengenfeld⁷ writes that Elfstamet-Grafstom reported the treatment of croupous pneumonia by intramuscular injections of patient's blood in 1898. Siengenfeld recommended injection of not more than 20 cc. of blood (in order to conform to Schultz-Arndt's law). He strongly favors autohemotherapy as a therapeutic agent, but condemns it as a prophylactic. Rausche⁸ used the method in a controlled series of postoperative cases, the mortality of the treated cases being 4 percent, and of the others 18 percent (alternate cases). He proposes the term "therapy with irritant bodies," and attributes much of its effect to the decomposition products of blood albumin acting upon the vegetative nervous system and the reticulo-endothelial system. He found that systemic blood pressure was raised and gastric secretion altered by intramuscular injections.

König⁹ on the other hand, is not convinced of the efficacy of autohemotherapy and considers simple bloodletting as effective. Rieder¹⁰, in a controlled series, concluded that the blood injections had no effect on the characteristically abrupt temperature curve of postoperative pneumonia, and expressed the belief that the method was not effective in the greater number of cases.

These writers support Vorschütz's theory, that the action of the whole blood, when injected intramuscularly, is depen-

dent upon albuminous decomposition products (globulins, pseudoglobulins and euglobulins), and upon the liberation of specific antibodies in the "division" of injected blood.

INJECTION OF BLOOD INTO CONSOLIDATED LUNG

It is my premise that whatever virtues, both specific and derivative, obtain in whole blood of pneumonia patients, their application to the treatment of the disease is better served by introduction into the diseased pulmonary area than by injection into a distant muscular focus. "Division" of blood must occur as effectively in the former site, and in addition, the direct action of available antibody is obtained where its presence in concentration is most urgently required; i.e., where the toxins and endotoxins of pneumonia are in greatest concentration.

Other advantages of delivering blood in extra measure to the afflicted pulmonary area are:

- 1.—Restoration of the blood supply of the consolidated lung to a volume more nearly approximating that of the normal lung.

- 2.—Increase of antibody volume delivered to the afflicted lobe, in proportion to the increase in blood supply.

- 3.—A diminution in the increased hydrogen ion content of the consolidated lung, by the injection of blood withdrawn from the systemic circulation.

- 4.—A mechanical and irritant action, resulting from the introduction of blood under moderate pressure. This may be thought to facilitate the loosening of fibrinous intra-acinar exudate, and by stimulation of leukocytosis, to hasten its liquefaction.

- 5.—The relief of cardiac embarrassment by withdrawal of blood from the systemic circulation and its disposal in the periphery of the lung, where it cannot materially increase the blood pressure at the hilus.

Accordingly, I have subjected 38* consecutive cases of lobar pneumonia to intrapulmonary injections of autogenous whole blood. This number is, of course, too small to establish a basis for authentic conclusions, but the experience it has afforded yields observations of some interest. It may confidently be said that this radical method

*From this series are omitted two patients dying, 10 and 14 hours after admission.

of treatment has not proved injurious. There is, indeed, evidence to indicate that it may be a definite benefit*.

TECHNIC

The skin over the antecubital fossa, corresponding to the side of the affected lung, is prepared with tincture of iodine and alcohol. A tourniquet is adjusted above the elbow, and 20 cc. of venous blood are withdrawn into a Luer syringe. The tourniquet is removed, a small piece of gauze is placed at the site of the puncture, the elbow flexed and the patient turned on his opposite (sound) side by an assistant. The skin overlying the area to be injected is wiped briskly with an iodine and an alcohol sponge. The needle (of the usual intra-venous type, 20-22 gage) is introduced its full length, with syringe attached, through an intercostal space (speed may be assured by using the palpating thumb as a guide). With the shoulder of the needle held firmly against the skin, injection is carried out with ordinary pressure on the piston. Should coughing or deep breathing cause movement of the needle, the injection is immediately halted and the syringe held lightly, to facilitate its counter-movement with the needle point. Unnecessary laceration of pulmonary tissue is thus avoided. If draping of the chest is done, it should be performed by an assistant, in order that the operator's time may be conserved.

In approximately 80 percent of injections, hemoptysis occurs. This takes place, in most instances, towards the end or after the conclusion of the injection. Should it occur early, the injection need not be discontinued, unless coughing is paroxysmal or distressing (in only three of 216 injections). Pain is seldom severe. Coughing may be entirely absent, or may last for 30 minutes or longer. The patient should be advised that some blood may be expectorated after the treatment. Coughing is, of course, more noticeable in pleural involvement and when opiates have not been employed.

It is important to carry out the entire technic with a moderate degree of speed, to avoid coagulation of blood†. Should unusual force be required to complete the injection, it should at once be discontinued. A prohib-

itive decrease in coagulation time is noted in a small percentage of pneumonia cases.

If delay in technic has permitted coagulation, blood may be withdrawn and injected with a fresh needle and syringe.

ROUTINE INJECTION TREATMENT

In cases of ordinary severity, one injection a day has been employed. In obviously grave cases, two or more have been given. Logically, it would seem desirable to give three or four injections every 24 hours for the first two or three days in early cases. Unfortunately, very few early cases were available for treatment in this series, the average time of hospital admission or first treatment being 6.2 days after the onset of illness. Severe cardiac embarrassment, marked dyspnea and distress upon turning, and profound depression are *contraindications*. The technic may be carried out without removing a low back rest.

An effort should be made to diversify the sites of injection, in order that different areas of consolidated tissue may be subjected to therapeusis. In lower-lobe involvement, the initial injection is usually made beneath the tip of the scapular angle; succeeding injections in the vertebral and paravertebral lines, above and below this level, in the scapular line (9th and 10th interspaces) and in the posterior and middle axillary lines. In upper lobe disease, injections are made posteriorly; anteriorly in the midclavicular line (2nd and 3rd interspaces, on the right side); in the apex of the axilla; and in the anterior axillary line. If the procedure is well borne, in multilobar involvement, two injections may be made at the same sitting.

With the exception of cough reflex, no definite reaction has been observed to follow whole blood injection. There have been no instances of collapse, syncope, significant pulmonary hemorrhage nor pulmonary edema. Two hundred and sixteen (216) blood injections have been given, without any evidence of injury or deleterious effect.

The needle employed penetrates the periphery of the lung from 1 to 4 cm., depending upon the thickness of the chest wall and the presence of pleural thickening or effusion. Injection has been made through effusions in 2 cases, without incident. Thoracocentesis and aspiration was practiced in 2 cases; and, in 2, thoracotomy with rib resection was done for empyema.

*Dr. W. E. Deeks, General Manager, Medical Dept. United Fruit Co., has suggested citration of the blood and the injection of mildly alkaline solution, or of Ringer's solution.

All of these patients recovered. Experience with lung puncture, thus employed, in pneumonia has not indicated that it encourages the development of empyema nor prejudices its successful treatment.

No complications attributable to the procedure have been witnessed. Three (3) of 9 cases brought to autopsy have revealed from one to three small blood clots in the consolidated lung, indicating incomplete distribution of the injected blood before the onset of coagulation. In the remaining 6 postmortem examinations, no assured evidence that injections had been made could be disclosed in the affected areas.

SUPPLEMENTARY TREATMENT

The principles of supportive treatment have emphasized rapid and complete digitalization; administration of fluids by hypodermoclysis, in toxic and dehydrated cases (especially important in tropical pneumonia); careful attention to nutrition; avoidance of drastic catharsis; assistance in feeding and the use of bed pans; and the exhibition of opiates to insure comparative freedom from pain. Oxygen was not employed.

ANALYSIS OF CASES

Of particular interest is the elapsed time before hospitalization or treatment. This is essentially the same for both groups of cases, a finding at variance with the usual experience. The age of the patient appears to have been more directly related to mortality than was the duration of illness. Of the recovery group, the average age was 24.5 years; while of those who succumbed it was 37.6 years. Of 12 fatal cases, 4 were admitted in grave and 6 in poor condition; while of 26 who recovered, 2 were considered grave and 9 in poor condition, when first seen. Of the 38 patients, 3 were negroes and the rest Central American natives, a race notoriously unresistant to pulmonary infections.

Attention should be directed to the rather large number of complicating diseases in both lists. It should be borne in mind that the average hemoglobin content of natives of the laboring classes, of the Guatemalan littoral, is seldom over 70 percent. Only unusually severe degrees of anemia are recorded. In the majority of fatal cases, more than one lobe was involved. A further unfavorable factor in the treatment of pneumonia in the Ameri-

can tropics is the fact that a majority of cases are caused by Type IV organisms, as shown by Clark²⁰.

RESULTS OF TREATMENT

Of 38 persons subjected to treatment, 12 died—a mortality of 31 percent. Of those who died, one succumbed 24 days after recovery from pneumonia, autopsy revealing both lungs clear, the cause of death being multiple (pneumococcic) abscesses of the kidneys. During the years 1922-1927, the pneumonia mortality of the Guatemala Division averaged 39.9 percent.

For comparison, in a recent summary of the effect of the administration of refined, concentrated, specific antibody serum (Fulton's), under somewhat more advantageous circumstances, Park et al²¹ report a general mortality rate of 27.5 percent with serum and 33.2 percent without serum. Cecil and Sutliff²², in a similar summary of recent cases in Bellevue Hospital, New York, report a mortality rate of 30.0 percent in treated cases and 39.2 percent in untreated cases. The character of the clinical material of the latter series corresponds closely to that reported in the present paper.

COMMENT

It must be emphasized that a larger number of cases than the series here presented is necessary to properly evaluate any method of treatment.

For this reason, no claim can be made in support of the suggested procedure. It is highly significant, however, that injection into consolidated lung can be made without danger. In this manner, solutions of sodium chloride, sodium citrate, Mercurochrome, convalescent serum and pneumococcus antibody solution (Huntoon) have been more recently used by the writer, without untoward effect.

The combined intrapulmonary and intravenous routes probably offer the most effective means of employing specific antibody serums in the treatment of pneumonia.

SUMMARY

1.—Intralobar injection of patient's whole blood has been practiced in 38 cases of lobar pneumonia without untoward results, and possibly with benefit.

2.—The practicability of intrapulmonary therapeutics by suitable agents has been emphasized.

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Medical Fraternities of North America

The Origin and Development of Greek-Letter Societies

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WHEN a society has for its object the development of character that will make a better student of the young man while in college, and a more useful professional man when he enters the arena of life, it is an institution with which every member of the profession should be familiar. For men in the medical profession to stand for high and clean moral standard, for intrinsic worth in the profession and for medical ethics, is, indeed, praiseworthy. So I purpose to give here, briefly, a history of the origin and development of Greek-letter societies in American colleges, with special reference to the national medical fraternities.

NOMENCLATURE

Greek-letter fraternities have selected names which are composed of two or three Greek letters, as Phi Chi (ΦΧ), Sigma Phi Epsilon (ΣΦΕ), Theta Nu Epsilon (ΘΝΕ).

These letters represent the secret motto of the fraternity. Chapters are usually named, in order of establishment, according to the Greek alphabet, as: Alpha, Beta, Gamma, etc. At times they take the name of the college or college town, or use the state system, as Virginia Alpha, Virginia Beta, etc.

INSIGNIA

Fraternity badges are frequently distinctive and handsome. They are small, usually jeweled, and are worn on the vest over the heart or as a watch-key pendant. Pledge buttons have been adopted by all national fraternities and indicate that the wearer is pledged to join a certain fraternity when requirements have been met. Colors, coats-of-arms, flowers and flags have been officially adopted by nearly every one of the national fraternities and sororities.

GOVERNMENT

During the early days, when the system was developing, each chapter was independent; but later many fraternities vested the parent chapter with the proper authority and it became the governing body. As years passed, conventions were called and delegates from the different chapters and alumni associations met and elected officers, usually from the alumni, who directed the affairs of the organization for a specified time. The modern fraternity provides for an executive secretary, traveling secretary and auditor, and these men devote their entire time to conducting the business of the fraternity between conventions.

PUBLICATIONS

The general academic, professional, and most of the honorary fraternities publish magazines devoted to the interests of the different organizations and the colleges. Many excellent histories and song books have been published; also frequent issues of catalogues giving a biographical sketch of every living member. Many of the chapters publish papers containing local news and matters of interest to alumni.

HONORARY MEMBERS

Honorary members have been admitted to nearly all of the national fraternities. Men who are prominent in the public eye—faculty members and outstanding professional men—have been admitted to the bond of the "Greeks." Grover Cleveland was initiated in Sigma Chi after he became president; William McKinley and Secretary of State Knox were honorary members of Sigma Alpha Epsilon; William Howard Taft became a member of Theta Nu Epsilon while he was president; and Governor Byrd, of Virginia, brother of Admiral Byrd, the famous aviator and explorer, is an honorary member of Sigma Phi Epsilon.

CHAPTER HOUSES

Most of the Chapters own or rent chapter houses, which correspond to the modern club house. There has been a tendency during recent years for fraternities to build elaborate houses, which leads to senseless rivalry. Colleges are recognizing the fact that the chapter houses often relieve dormitory congestion and that excellent discipline is exercised over pledges and younger members by the officers and seniors. At Yale, many of the meeting places of the

secret societies were called "tombs," and the peculiar style of architecture was a cause of much comment from interested visitors.

ORIGIN AND DEVELOPMENT

Having briefly reviewed some of the principal features of college fraternities, I shall approach the medical fraternities by telling the story of the origin of the first Greek-letter societies.

December fifth is a date that every man in the bond of the "Greeks" should celebrate. For, on December fifth, 1776, Phi Beta Kappa saw the light and became the founder of that great system of Greek-letter fraternities that mean so much to healthy college men. It was in the Apollo Room of Raleigh Tavern, at Williamsburg, Virginia, that the meeting was held, and the selected members were students of the renowned College of William and Mary—the college of Jefferson. In that same room, a few months previous, occurred one of those great oratorical outbursts by the colonial Demosthenes, Patrick Henry, who, by his mighty eloquence, displayed here, as well as elsewhere, had finally led the hesitating Virginians to sever relations with the mother country, thus making possible the foundation of a new Nation.

In such an environment, it is not strange that the students assembled on that eventful night should have entered into a field of activity new and untried. By solemn obligations of mutual fealty, they formed a secret society, to be known to the outside world by a combination of Greek letters, initials of the name proper; the latter a motto ever to be held in inviolate secrecy. Future meetings were planned and extension of the organization to other American colleges was contemplated.

The purposes of Phi Beta Kappa were the enhancement of the social side of college life and the promotion of higher culture. These embryo fraternity men adopted a grip, a password and a badge. Thus was Phi Beta Kappa conceived and organized. It is an honor for the fraternity man of today to point back to the time, the place and the men who began a movement which, in its continuity of development, has grown into the Greek-letter system of today.

Elisha Parmele, of the parent chapter, established chapters at Yale in 1780 and at Harvard in 1781. These chapters established another at Dartmouth in 1787 and one at Union College in 1817. As years

rolled by, scholarship became the chief factor in eligibility to membership in Phi Beta Kappa.

In 1831, the fanatical anti-secret-society movement swept through the United States, and such great pressure was brought to bear on the chapter at Harvard that it surrendered its secret work and became an honorary fraternity. Today the Phi Beta Kappa key is a decoration for scholarship, and college men and women everywhere covet the honor.

Eight years after Phi Beta Kappa established its chapter at Union College, Kappa Alpha was founded—Kappa Alpha (Northern) it is now termed, to distinguish it from the fraternity of the same name, of the South.

Union College gave to Greekdom two other societies in 1827; Sigma Phi and Delta Phi. Sigma Phi established a chapter at Hamilton College, New York, in 1831, thus following Phi Beta Kappa in expansion. Sigma Phi's chapter at Hamilton stimulated the organization of Alpha Delta Phi, in 1832, and the year following, Psi Upsilon was founded at Union College. Kappa Alpha Society founded its first branch chapter at Williams College in 1833 and called it "Massachusetts Alpha," thus carrying out Phi Beta Kappa's idea of extension. Another body of college men founded Delta Upsilon at Williams College, in 1834, no doubt prompted by the presence of Kappa Alpha.

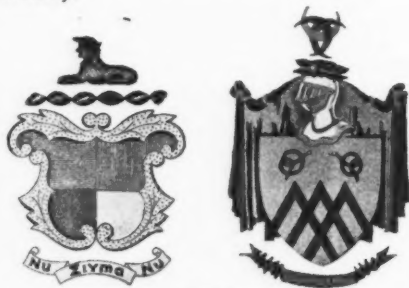
Thus was the Greek-letter system of fraternities launched as a permanent feature of American college life. Today we find eighty-four recognized national academic fraternities with thousands of chapters located in the leading colleges, composed of a membership running into hundreds of thousands.

Many of the so-called national fraternities are only sectional societies: Kappa Alpha (Northern) is composed of seven chapters, located in three states and two Canadian provinces; Kappa Alpha (Southern) is restricted to eighteen Southern states, the District of Columbia and California, and numbers fifty-eight chapters. Some fraternities, such as Zeta Psi, Delta Kappa Epsilon, and Phi Rho Sigma (Medical), are international, having chapters in certain Canadian colleges. Among the professional schools we find sixty-five fraternities, representing nearly every profession, and fifty-three honorary fraternities.

The first women's Greek-letter sorority was Kappa Alpha Theta, which was founded at DePauw University in 1870. Kappa Kappa Gamma was organized the same year at Monmouth, Ill. Forty-two national academic sororities are now represented in American colleges, twenty-six in professional schools of law, medicine, music, etc., and twelve so-called honorary sororities, in which membership is based on excellence in scholarship in special fields.

MEDICAL FRATERNITIES

The first medical fraternity of which we have a record was the Kappa Lambda Society of Aesculapius, founded by Samuel Brown at Transylvania University, about 1819. A description of this very interesting organization may be found in the fourth volume of the "Annals of Medical History."



Coat-of-Arms
Left: Nu Sigma Nu.
Right: Alpha Kappa Kappa.

The first national medical fraternity was Nu Sigma Nu, founded at the University of Michigan on the second of March, 1882. This fraternity now consists of thirty-seven active chapters in Class A colleges of medicine. It has always emphasized the need of high scholarship in its numerous chapters and has minimized social activities. The pin is a monogram of the Greek letters, ΝΣΝ.

Six years after the first chapter of Nu Sigma Nu was established, Alpha Kappa Kappa was founded at Dartmouth Medical School, Hanover, N. H. AKK is composed of forty-nine active chapters, sixteen of which own houses valued at about \$400,000, and twenty-one chapters rent houses. An excellent quarterly magazine, *The Centaur*, has been published regularly since 1903. The pin is a crescent, holding between its points a book upon which is



Coat-of-Arms
Left: Phi Chi.
Right: Phi Rho Sigma.

placed the chapter letter. Two serpents are coiled about the crescent, on the base of which are the letters AKK, in black enamel.

The University of Vermont was the third institution in which a national medical fraternity was founded. Phi Chi Medical Fraternity was founded at this university March 31, 1889, and the Southern fraternity of the same name was organized at the University of Louisville, Ky., five years later. On March 3d., 1905, representatives of the northern and southern orders met at Baltimore, Md., and decided to consolidate. This fraternity is now composed of fifty-nine active collegiate chapters and fifteen organized alumni associations. Medical students and physicians, to the number of 14,340, have been admitted to membership in Phi Chi since its organization.

In 1922, the Pi Mu Medical Fraternity, which was founded at the University of Virginia, was absorbed by Phi Chi. Nearly every chapter owns or rents a chapter house. Since 1904 the fraternity has published an excellent magazine, *The Phi Chi Quarterly*. Since the order was founded, the official badge has been changed three times. The present badge is a gold monogram of the Greek letters, $\Phi\chi$, with a skull and bones superimposed in the center of the letter Phi; the Greek letters $\Phi\chi A$ appear on the forehead of the skull. This fraternity employs a full-time executive secretary and maintains a central office at Nicholasville, Kentucky.

The fourth national medical fraternity, Phi Rho Sigma, was founded October, 31, 1890, at the Chicago Medical College, now Northwestern University, Medical Department. This fraternity has always been very conservative in its extension policy and has

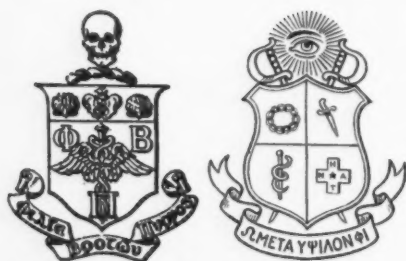
expended its energy in making a fine national organization of medical students and physicians. Through its house-building fund and students loan fund, much good has been done. In 1929 the strong southern medical fraternity, Chi Zeta Chi, with twelve active chapters and many alumni associations, was absorbed by Phi Rho Sigma, which gives this fraternity thirty-eight active chapters in Class A medical colleges of the United States and Canada.

Chi Zeta Chi was founded at the University of Georgia, in 1903, and has a glorious history. Among its 2,000 alumni, who are now affiliated with the Phi Rho Sigma, will be found many of the most prominent physicians and surgeons of the South.

Nearly all of the chapters of "Phi Rho" either own or rent chapter houses. The first badge of the order was a shield of gold with the Greek letters $\Phi\P\S$, in black enamel, an open book and clasped hands in gold. In 1895 the official badge was changed to a monogram of the Greek letters, Φ being set with pearls. A semi-official watch charm, in the form of an enameled square in black, with a monogram of the three letters in gold has recently been adopted. *The Journal of Phi Rho Sigma* is the official publication of the order and goes monthly to every living member. International headquarters are at 8314 Euclid Avenue, Cleveland, Ohio.

In 1890 a group of women medical students, attending the University of Michigan, realized that a strong medical sorority, consisting of students and physicians, would stimulate higher scholarship and enhance the social side of college life. The result of the efforts of these students is Alpha Epsilon Iota which is now composed of twenty-two active chapters, situated in Class A medical colleges.

The growing need for organization of groups of medical students for mutual benefit was recognized at the University of Pennsylvania when Alpha Mu Pi Omega was born, January 7, 1891. This fraternity has grown slowly, on the basis of quality instead of quantity. Some chapters are now functioning with almost exclusively a graduate membership, but have the power to take in undergraduates and occasionally do so. Charters have been issued to ten groups, six of which are in colleges of medicine. Three houses are



Coat-of-Arms
Left: Phi Beta Pi.
Right: Omega Upsilon Phi.

owned, the total value being \$100,000. The badge is a shield, encircled by a snake; on the shield is a skull, above which are the Greek letters, AMB, two stars and rays of lightning.

Two months after Alpha Mu Pi Omega was organized at the University of Pennsylvania, Phi Beta Pi was founded in the Medical Department of the University of Pittsburgh, its object being to counteract the then current political and unprofessional activities of the existing local medical fraternities. It has since remained a rather informal group, with a definite program of providing open discussion on current non-technical medical problems. Seven years after it was organized it began to expand and now numbers thirty-nine active chapters in Class A medical schools. Twenty-one chapters own houses, the total value being conservatively estimated at \$500,000; thirteen chapters rent houses and five hold meetings in rented rooms. An excellent magazine, *The Quarterly of Phi Beta Pi*, has been published since 1904. The badge is in the shape of a diamond, enameled in black, with a skull, pelvis and the three Greek letters thereon in gold. The total number of active and alumni members at the present time is estimated to be 12,000. Of this number, 1,200 served in the World War.

The University of Buffalo was the next institution which was honored with a parent chapter of a medical fraternity which was to become national in importance. Omega Upsilon Phi was organized in the medical department of this university in 1894, and later absorbed three chapters of Kappa Phi which were located at the University of Pennsylvania, Jefferson Medical College, and North Carolina Medical College. The number of active chapters is

fifteen, all of which are located in Class A medical colleges. The badge is a shield of gold, enameled in black, with a monogram of the Greek letters, ΩΥΦ thereon, above which is an eye. The official publication of the fraternity is *The Quarterly*.

Stimulated, no doubt, by the position held by Phi Beta Kappa in academic schools, the medical honor society, Alpha Omega Alpha, was organized by a group of outstanding students in the College of Medicine of the University of Illinois, Chicago, August 25, 1902. This organization is a non-secret, fourth-year honor society, membership in which is based on scholarship and moral qualifications. Chapters have been established in most of the Class A medical colleges. The badge is in the form of a gold watch key designed after the *manubrium sterni*, upon which the letters AΩA are engraved, also the date of organization; on the reverse are engraved the member's name, college and date of initiation.

Up to 1904, the national medical fraternities were very strict regarding the initiation of students of certain races. This evidently stimulated the organization of Phi Delta Epsilon which was founded at Cornell University Medical School in 1904, "To prove that men, though of different races and religious beliefs, could still group together if they had the same ideals, if they were actuated by the same feeling; that inherent prejudice has no place in the modern world." This fraternity met with success from its inception and now numbers forty-seven active chapters, two of which are in homeopathic medical schools. In 1918 Alpha Phi Sigma was absorbed by this fraternity. Five chapter houses are owned, which are valued at \$125,000, and eighteen chapters rent houses. The pin is a combination of the Greek letters, ΦΔΕ.

Nearly twenty years passed before another medical fraternity of national importance was founded, and this was restricted to a special field of medicine. In 1924, Major Edgar E. Hume and Dr. S. W. Mitchel, two graduate students of the School of Hygiene and Public Health, Johns Hopkins University, founded the Honorary Public Health Society, Delta Omega. Membership in this society is restricted to students, faculty members and alumni of schools of public health, who are leaders in research and scholarship. The badge is a watch key of gold, the letters

ΔΩ being within a circle forming the center of the key; on the reverse the name of the member, chapter and year of initiation are engraved. Recently President Herbert Hoover was initiated as an honorary member. Six chapters have been established.

And now comes the interesting history of Kappa Psi, a fraternity about which much incorrect data has been published. The society of Kappa Psi, founded at Russell Military Academy, New Haven, Conn., had nothing to do with the college fraternity of the same name. One or more of the members of the Society of Kappa Psi entered the Medical College of Virginia and were instrumental in the foundation of the Kappa Psi medical Fraternity, the membership of which was limited to medical students. The organization existed for a number of years and then expired. On November 18, 1898, Kappa Psi was reorganized as a strictly medical fraternity, in the University of Maryland, and a new era of existence began, which has been uninterrupted since that date.

In 1903 a chapter was installed in the Philadelphia College of Pharmacy, which had its origin in the courses in pharmacy offered by the medical faculty of the University of Pennsylvania. Similar chapters were organized in the Massachusetts College, the Louisville College of Pharmacy,

and three other first class institutions. Kappa Psi, however, did not classify itself as a medico-pharmaceutical fraternity. In 1917 Delta Omicron Alpha, and in 1918 Phi Delta, were merged with this fraternity.

On January 15, 1925, Kappa Psi prefixed the Greek letter Theta to its name and dropped the several pharmaceutical chapters and the membership thereof. There are now thirty-four collegiate chapters and thirty-eight graduate chapters. The fraternity owns six chapter houses, valued at \$210,000, and rents eighteen houses. A central office is maintained at Memphis, Tennessee, from which the magazine, *The Messenger*, is issued.

The official badge is a shield of gold and black enamel, upon which is a Caduceus and the Greek letters, ΘΚΨ, in gold.

Other medical fraternities, from which no information could be obtained, are as follows: Phi Alpha Sigma, Phi Lambda Kappa, Lambda Phi Mu, Nu Sigma Phi (women), Zeta Phi (women); and the following among the homeopathic medical schools: Phi Alpha Gamma, Pi Upsilon Rho and Alpha Sigma.

It is evident that medical fraternities have established an enviable record and are a permanent addition to the medical and social activities in American medical colleges.



Coat-of-Arms
Theta Kappa
Psi.

THE DOCTOR'S INVESTMENTS

Never let sentiment have any part in your investments. Look into everything yourself, as far as possible, and trust no man's word any further than is absolutely necessary. Out of over thirty bond dealers with whom I have transacted business, there are not more than a half dozen with whom I should care to do business again. Five percent with safety is far better than any dream of riches. The most satisfactory investment for the elderly doctor is an annuity from any of the older non-fraternal, conservative life insurance companies, avoiding all of those which invest any extent of their reserves in common stock.—A Medical Veteran in *Western Med. Times*, Mar., 1930.

Sodium Amytal as an Anesthetic

By CLIFFORD U. COLLINS, M.D., Peoria, Ill.

IT HAS been interesting to watch the progress of anesthesia in the last thirty years, and it is some compensation to the older surgeon for the years he has added to his age, to note and analyze the changes in the period he has been privileged to observe.

In 1900, there was still considerable discussion as to the relative merits of ether and chloroform. In 1903, I heard W. J. Mayo say, at a meeting of the American Medical Association at New Orleans, that they preferred ether at Rochester because, if anything untoward happened, the patient had the opportunity to bid his friends and relatives farewell. The inference was (and it was true), that patients dying from chloroform usually died during or shortly after the anesthesia, and without regaining consciousness.

A study of the deaths from chloroform and ether was made, and it soon showed that there were distinctly more deaths, proportionally, under chloroform anesthesia. An interesting observation was made that a large proportion of the deaths under chloroform occurred in minor or short operations, such as removal of tonsils and of hemorrhoids. It was soon proved conclusively that the margin of safety was considerably less in chloroform anesthetics, and ether became the popular anesthetic. An article by L. W. Littig¹ and another one by Alice Magaw² helped in the acceptance of this conclusion.

DISADVANTAGES OF ETHER

The use of ether as an anesthetic still left, however, some things to be desired, from the patient's point of view. It had a disagreeable odor, and, unless it was administered with a great deal of art and care, the patient had some unpleasant sensations during the few minutes previous to complete anesthesia. Due to the comparative safety of ether, its administration was frequently trusted to anyone who was convenient, and these convenient anesthetists frequently lacked the necessary training and skill to make the administration an art. It was expected that a large proportion of the patients anesthetized with ether

would suffer from nausea and vomiting for a day or two. It was also noted that ether was irritating to the urinary organs and to the respiratory tract.

Knowing that ether was disagreeable for the patients, a search went on for the ideal anesthetic; and the search is still going on. Also, efforts were made to lessen the disagreeable features of ether anesthesia. Oil of orange and perfumes were added, in an effort to disguise the disagreeable odor. In 1905, Emil Ries³ reported operations under divided doses of scopolamine and morphine. In the same year Major Seelig⁴ suggested the use of scopolamine 1/100 grain (0.64 mgm.) and morphine 1/6 grain (10.5 mgm.) as a preliminary hypnotic before ether anesthesia, to tranquilize the patient, rob him of his fears and dull his remembrance of the disagreeable sensations prior to complete ether anesthesia.

It so happened that I had to have my appendix removed in December 1905, and, having the usual fear of a personal operation that is customary with surgeons, insisted that I be given the preliminary hypodermic injection of scopolamine and morphine. The soothing effect was wonderful, and since then my patients have had the beneficent effect of the administration of this combination, as a preliminary procedure to an operation⁵.

Then began a discussion of the value of this preliminary hypodermic medication, that was almost heated at times. Horatio C. Wood, Jr.⁶, a pharmacologist of Philadelphia, not a surgeon, wrote: "We think it must be a very bold or a very ignorant surgeon who will persist in its use." After the smoke of battle cleared away, some form of preliminary medication to a general anesthesia had come to stay, and is now being used by a large majority of the surgeons.

Since 1905, nitrous oxide and oxygen, local and regional anesthesia, the combination of a local anesthetic with nitrous oxide and oxygen (under the name of anoci-association), ethylene and, recently, spinal anesthesia, have been brought prominently to the notice of surgeons, but none of them has yet supplanted ether in popular favor.

Gwathmey has also advanced the idea of his synergistic anesthesia, and Lundy has developed his balanced anesthesia.

ADVANTAGES OF ETHER

There are several reasons why ether is still popular with the surgeons:

A great many patients have only one operation in their lives and have no opportunity to object to the use of ether a second time.

The administration of ether requires no expensive apparatus, as does the administration of nitrous oxide and oxygen or ethylene, and no skilled technic, as does spinal anesthesia.

The cost of ether is small.

The margin of safety is greater with ether than with nitrous oxide.

The explosive properties of ether are not nearly so great as those of ethylene, although amusing efforts have been made by the friends of ethylene to put it in the same class.

While patients anesthetized locally or with a spinal anesthetic suffer no pain, they are conscious, which makes that form of anesthesia undesirable in some patients. Furthermore, local and spinal anesthetics are not available for all parts of the body and are not general anesthetics.

I am not a prophet nor the son of a prophet, but I venture to prophesy that no satisfactory general anesthetic will ever be discovered for universal use, but that the operations of the future will be performed under an anesthetic, or a combination of anesthetics, chosen for the individual patient and his condition.

In the last two years a new anesthetic has been brought to the attention of the surgeons by Zerfas and McCallum¹. It is a general anesthetic and any part of the body may be operated upon under its administration.

The truth can be ascertained only by the exchange of opinions and experiences concerning any medicine or method. My experience with sodium amytal is presented with this thought in mind.

There are four individuals immediately concerned with the choice of an anesthetic: The patient, the surgeon, the anesthetist and the nurse. Of course, the patient may only be allowed a choice as far as his sensations are concerned. When the patient's condition is considered, he must rely on his surgeon and anesthetist.

SODIUM AMYTAL

From the viewpoint of the patient's sensations while going under the influence of the anesthetic, sodium amytal is ideal. I have not yet ceased to have a thrill when I see a patient pass into a deep sleep in three or four minutes, without any untoward manifestation whatever.

Sodium amytal is administered intravenously and, if the patient is nervous and apprehensive about being taken to the operating room, the injection may be given in his room. I have done this when conditions made it desirable. One of my patients told a friend that she had been operated upon in her room, because the last thing she remembered before the operation she was in her room, and she was there when she awoke.

Patients given sodium amytal anesthesia very seldom vomit. They are saved the suffering caused by the pull on the abdominal sutures and the general discomfort of vomiting.

The anesthesia lasts from twelve to thirty-six hours, and this saves the patients a great deal of distress. They usually sleep continuously for about nine hours, and then wake for about ten minutes. During this short period of consciousness they have been asked questions and the answers recorded, and it has been my experience that they remembered the questions and answers. If the first waking is in the evening, they go to sleep again and sleep practically all night. The next day the periods of consciousness are longer and they are fully awake in about thirty-six hours. This long period of sleep is frequently a cause for anxiety to the relatives, unless this is prevented by explanations before the anesthesia.

The surgeon does not begin to operate until fifteen minutes after the administration of the sodium amytal has been completed. He finds the abdominal wall completely relaxed, if the quantity of the drug has been sufficient. The intestines are quiet and collapsed, as they are in local and spinal anesthetics. The surgeon has no special difficulties when operating under complete sodium amytal anesthesia.

It is the duty of the anesthetist to have the patient fully anesthetized for the surgeon. My patients have been given a preliminary hypodermic injection of scopolamine, 1/100 grain (0.64 mgm.) and

morphine, 1/6 grain (10.5 mgm.), about one-half hour before the sodium amytal is administered. This relieves any nervous apprehension they may have. It may not be necessary, but it harmonizes well with the effect of the sodium amytal and I have found no contraindications.

The greatest problem of the anesthetist is to give enough of the drug to produce the desired effect, and no more. This is comparatively easy with ether, which is administered continuously during the operation, but difficult with sodium amytal with which the entire dose must be estimated before the administration. I have carefully followed the directions* because I feel the responsibility of using a new anesthetic, and sometimes the quantity was not sufficient to produce the depth of anesthesia desirable. Any shortcoming has been on the safe side, and I have had no fatalities. Fortunately, sodium amytal permits the addition of nitrous oxide and oxygen, ether, ethylene, a local anesthetic or any anesthetic in ordinary use, and it takes only a very small quantity, comparatively, of the inhalation anesthetic, added to the effect of sodium amytal, to produce a satisfactory depth of anesthesia.

The patient is not conscious and, we are sure, will have no recollection of pain; but, if the anesthesia is not deep enough, this is manifested by a slight, restless moving of the body and limbs, which is annoying to the surgeon. At first I made the incision and, if the patient was restless, the anesthetist added some inhalation anesthetic. Then I found that the sensation of pain in the skin seemed to persist longer than in the deeper structures. Lately I have tested the depth of the anesthesia by needle pricks or pinching the skin with forceps. If the patient showed sign of restlessness, the skin was injected with a local anesthetic, or a little inhalation anesthetic was given while the skin incision was being made. Frequently this was all the additional anesthetic required.

Another problem of the anesthetist is the administering of the anesthetic in a vein. Sometimes he finds a patient with

practically no veins in the bend of the elbow. Our anesthetist, Mae L. Whitford, has utilized the external jugular once and a large vein on the wrist at another time.

The nurse who takes care of the patient after the operation finds that he sleeps most of the time the first day and night. If the patient is restless, although not conscious, she is permitted to give a small dose of morphine hypodermically, when necessary. She must watch to see that the patient does not swallow his tongue and become asphyxiated, as might be the case with any unconscious patient.

For years I have used isotonic saline solution, injected in each axilla, during ether anesthetics, which was a suggestion of G. S. Foster's⁸ that we followed. This procedure has many good features, among which is that we very rarely have to catheterize a patient after an operation. We did not do this with the first few sodium amytal anesthetics, and we noted an increase in the number of postoperative catheterizations. In the following anesthetics we used the saline solution, and the catheterizations practically ceased.

CONCLUSIONS

- 1.—Sodium amytal anesthesia is ideal, from the patient's point of view.
- 2.—It permits the use of any preliminary hypnotic or sedative and the addition of any inhalation or local anesthesia, if necessary.
- 3.—It can therefore be used as a basic anesthetic, with any additions that may be deemed necessary by the anesthetist or surgeon.
- 4.—So far, my experience has shown it to be a safe anesthetic.

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*This drug is not yet available, commercially, and full directions for its use accompany each experimental package. These have been followed meticulously.

Orbital Cellulitis of Unknown Etiology

(A Case Report)

By E. D. LEVISOHN, M.D. and I. L. SHERRY, M.D., Chicago

ORBITAL cellulitis or retrobulbar abscess, while of infrequent occurrence, has been reported in the literature and mentioned in some textbooks on the eye. Most of the cases reported have had a definite etiology, generally following nasal and para-nasal sinus and middle-ear infections. Other cases have followed furunculosis of the nares or eyelids, edema from injury, erysipelas, meningitis, brain-abscess, osteomyelitis of the orbital bones, actinomycosis, exanthems and other febrile diseases.

Thrombosis and thrombophlebitis of the orbital vessels, many of which drain the nasal and accessory sinuses, can readily occur, as will be realized when one considers the anatomic relations of the orbit with the surrounding structures¹ and it is surprising that cellulitis of the orbit is not more frequently encountered.

Woodruff and Gray², Green³, Shelburne⁴, Gittings⁵, Wright and Taylor¹, and others, state that most of their cases gave a history of chronic nasal infection.

The onset of the condition is usually acute, with chills, fever, nausea, and pain in the orbital region, not definitely localized. Twenty-four to thirty-six hours later, some edema of the lids is present and, in forty-eight hours, an exophthalmos of varying degree occurs, with fixation of the globe.

The treatment varies with different authors. Gittings favors expectant treatment, attempting to reduce the cellulitis without drainage of the orbital tissues, and employing external incision as a last resort. Shelburne⁴, on the other hand, advocates early and free drainage, and feels justified in making an exploratory incision in cases of doubt, to investigate the bony, cellular, and fatty tissues of the orbit. Woodruff and Gray² recommend submucous resection of the septum and middle turbinate, with curettement of the ethmoid cells and removal of the *lamina papyracea*.

CASE REPORT

Helen M, aged 9, came home from school saying that she did not feel well, and immed-

iately went to bed. She was seen the following morning by one of us (L.). Her only complaint was that she did not feel "good". There was no history of a recent cold or running nose.

Examination revealed a feverish child, her face flushed, but apparently quite comfortable and free from pain. There was no sign of a rash, except that the same tinge of redness was present on the body as that remarked on her face. The conjunctivae were not injected, and there was no nasal discharge nor congestion of the nasal mucosa. The pharynx was not inflamed. Examination of the ears revealed normal tympani. Transillumination of the nasal sinuses and antrums yielded negative results. The chest and abdomen were negative. Her temperature was 103°F. and pulse rate 124 per minute.

That evening her mother telephoned us that the patient was complaining of severe pain in her left eye, but that there was no swelling, redness or other unusual condition to be seen about it. Hot applications of boric acid were advised and, the following morning, we went to see the patient, who was still complaining of severe pain in the left eye.

There was marked edema of the upper and lower lids and a beginning exophthalmos. The bulbar and palpebral conjunctivae were only slightly injected; temperature 103°F., nares clear. Again, transillumination of the sinuses and examination of tympani showed nothing abnormal. The patient was removed to a hospital, where hot applications and sedatives were ordered.

The following day (April 9) the exophthalmos was markedly increased and the eyeball was fixed. The temperature was 103.6°F. Smears from the conjunctival secretion were negative for pus, epithelial cells or organisms. The red blood-count was 4,300,000; white blood-count 14,000; urine negative. An x-ray picture showed a definite increase in density of the left orbit and some increase in density of the ethmoidal and antral regions.

April 10, the patient was examined by Dr. Emil Deutsch, who reported that there was no transillumination of the left antrum, and that this was a case of orbital cellulitis, due to an antral abscess. April 10 to 13, hot applications were continued, 5 percent Argylol (mild silver protein) solution instilled into the conjunctival sac and epinephrin and ephedrine solution into the nares.

April 14, there seemed to be a pointing of the abscess on the upper lid, near the inner canthus. Under ethylene anesthesia, a small incision was made at this point, which was followed immediately by the escape of a considerable amount of thick, yellow pus. A probe passed easily behind the globe, showing involvement of the entire postorbital space. A small cigarette drain was introduced as deeply as possible, and then hot boric acid compresses were applied. It was observed that, immediately

upon the conclusion of the operation, the exophthalmos disappeared almost entirely.

The patient made an uneventful recovery and left the hospital seven days later, with a slight limitation of motion of the eyeball in all directions and some dropping of the upper lid.

May 9, an x-ray examination showed normal density in the orbit, with clear para-nasal sinuses and antrum. Motion of the globe and lids was normal.

COMMENT

There seems to be a general agreement that orbital cellulitis or retrobulbar abscess is usually secondary to suppurative processes in structures adjoining the orbit.

In our case, the primary focus of infection was not discoverable in adjacent tissues, and so we are forced to conclude that this was of idiopathic origin.

The diagnosis of antral abscess could scarcely have been correct, as the final x-ray films showed no involvement of that space, and no treatment had been directed to the antrum.

We followed the conservative method of treatment advocated by Gittings⁵, with no bad results.

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Endocrines and the Sedimentation Test

By HAL BIELER, M.D., Pasadena, Calif.

IT HAS always been difficult for the biochemists to keep pace with research workers on animal experimentation. A few years ago we were gradually introduced to the vitamins—at first, three; later, five. Lately, vitamin A and also vitamin B are being split into component parts. Probably additional divisions will be made. It seems that, eventually, the vitamins will be resolved down to the various elements composing the body tissues. Some of these elements will be commonly found among the articles composing the usual diet, while others will be missing or, at best, supplied in inorganic instead of organic or colloidal form.

For example, take phosphorus, which plays so important a part in the chemistry of the nucleus of the cell and in the lecithin of the adrenal glands. The average diet contains very little of this element, in available form. On the other hand, iodine is usually supplied rather plentifully, the fruits and green vegetables offering it in useful amounts.

As a state of health must depend, among many other things, upon an even working balance between the adrenal and thyroid glands, the attempt is made, in this paper, to show that a diet rich in available phosphorus improves a hypoadrenal state: Like-

wise, that a diet rich in iodine aggravates a hyperthyroid condition: Also that, as the hypoadrenal state improves, the erythrocyte sedimentation rate shows a corresponding approach to the normal.

WORKING HYPOTHESIS

There are two factors in the blood serum which determine the rate of erythrocyte sedimentation. The first, factor A, is related to the serum-albumin and contains phosphorus. Its colloidal molecule is of relatively large size and it carries oxygen in loose combination, so that it is rather unstable. Factor A is either manufactured or controlled by the adrenal glands. The *adrenoxidase* of Sajous¹ is the same as or closely related to factor A. So is the substance in the serum which Alexis Carrel² showed would make life, but not growth, possible in tissue culture. What is known as *complement* is also closely related. The *archusia* of Burrows³ and the life-maintaining substance of vitamin A are also identical with factor A. An excess of factor A in the blood would tend to stimulate the sympathetic nervous system. Its electricity is positive (Crile).

The second, factor B, is related to the globulin of the blood serum and contains

iodine. Its colloidal molecule is of relatively small size and its chemical composition is stable. Factor B is either manufactured or controlled by the thyroid gland, probably as an iodoglobulin. The substance which Alexis Carrel proved necessary for the growth and multiplication of cells, identical with the *ergusia* of Burrows, is contained in factor B. Its relation to the growth-promoting substance of vitamin B is also apparent. An excess of factor B in the blood would tend to stimulate the parasympathetic system. Its electricity is negative (Crile).

If a working hypothesis has any value at all, it must be able to explain certain reactions. That stated above will explain the rate of red-cell sedimentation, from the colloid-chemical point of view. As is known, the biochemists say that, the greater the number of albumin molecules in the suspension, the slower the rate of sedimentation, because the larger molecules increase the friction or viscosity of the solution. Fahraeus and his followers⁴ believe that the cohesiveness of the red cells, which they have shown is a great factor in the sedimentation rate, is due to a preponderance of one electrically charged ion over another. They also agree with the biochemists that, as the serum-globulin increases and the serum-albumin decreases, the rate of sedimentation becomes more rapid.

From what we know of Addison's disease, which is really the very late stage of hypoadrenia, it seems that even a moderate degree of this condition is incompatible with a state of health. If our factor A and complement are related, we could expect a reduction of complement in chronic disease conditions. Hadjopoulos and Burbank⁵ proved, in a late article, that this is so.

Another point that our working hypothesis would prove is that the sedimentation rate is not directly affected by infection or parasitism, per se, but only as infection or parasitism would have a tendency to cause a state of hypoadrenalism. The same explanation would hold for the lowered rates after anesthesia or alcoholic intoxication. In pregnancy, due to the rapid metabolism taking place in the fetus, the factor A could be shifted to the placental circulation. It has been shown that the sedimentation rate of blood from the umbilical cord at birth is well within normal limits. Fahraeus also proved that the lowest globulin values are

to be found in the blood of the new-born. The lowered rates in the advanced cases of cancer could be explained by the fact that the increased metabolism and oxidation in the cancer itself would demand a high concentration of factor A, thereby leaving the general circulation more or less depleted.

PULMONARY TUBERCULOSIS

Perhaps the most classical disease in which to study glandular and sedimentation rate irregularities is pulmonary tuberculosis. Here we have many of the characteristic signs of hypoadrenia: asthenia; cold extremities; loss of muscle tone; dilated pupils; Sergeant's white line; inability to digest food; hypofunction of liver and kidneys; low blood pressure; and loss of appetite. At the same time, many signs of an overactive thyroid gland present themselves: rapid catabolism, resulting in loss of weight; nervousness; insomnia; sweating; rapid growth of hair and nails; tachycardia; keen sensory perception and cerebation; sex stimulation; and a tendency to develop catarrh of all mucous membranes.

Besides the rapid sedimentation rate, we find a depletion of phosphorus going on. The urine and sputum are eliminating great quantities of phosphates. The fibrin that is being thrown down is rich in it. This loss of phosphorus has long been noted and such foods as meat, eggs, milk and cod-liver oil (all of which we know to be rich in vitamin A) are used to reinstate that element. Vitamin B foods are not so well tolerated. Neither is iodine nor thyroid extract. All of these are things which would tend to stimulate an already overactive thyroid gland. Thyroid or iodine therapy, in tuberculosis, has proved this to be so.

Because the sedimentation rate is more rapid in pulmonary tuberculosis, where we see exhibited most of these hypoadrenal and hyperthyroid signs, the conclusion may well be drawn that hypoadrenalism, plus hyperthyroidism, alters the sedimentation rate through the effect on the colloidal chemistry of the serum. Other diseases, where the rate is less affected, show, nevertheless, a corresponding imbalance between phosphorus and iodine and, as we gradually approach what we term a state of health or a normal phosphorus-iodine balance, we find a normal sedimentation rate.

PRACTICAL APPLICATION

As recuperation depends mainly upon the body's ability to repair its diseased and

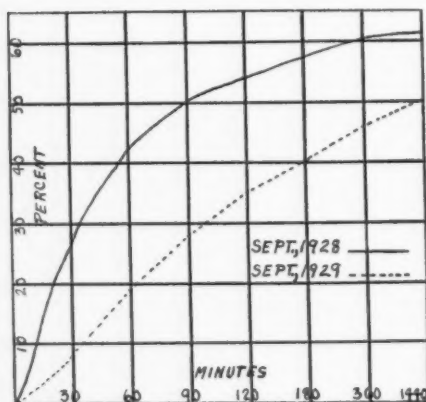


Fig. 1.—Female, age 60. Diagnosis: Chronic enterocolitis; atrophic cirrhosis of liver; very marked asthenia. Dietary protein consisted of casein and an occasional yolk.

broken down tissues, and as protein is the only food by means of which this is possible, the protein factor in the diet becomes the most important. The effect of diet on the sedimentation rate, in three different cases, is illustrated by the accompanying charts.

Milk and egg yolks were chosen as the most available source of protein for repair. These proteins, as well as being easily digestible, contain the element phosphorus in fairly high concentration. This is important, because the prevalence of phosphorus in the nucleus of every cell in the body, as well as its importance as a regulator of nerve function and the part it plays in the internal secretion of the adrenal glands, is firmly established.

Raw milk and fresh egg yolks were used,

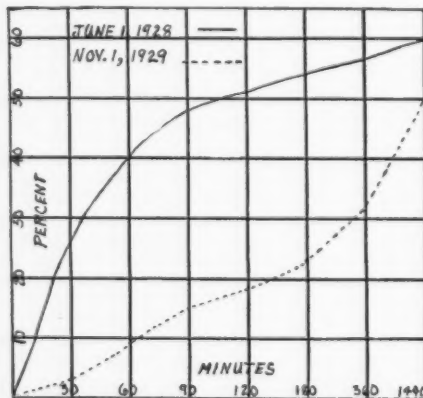


Fig. 2.—Female, age 66. Diagnosis: Marked myxedema, delusional psychosis. Dietary protein milk only.

because there is practically no intestinal putrefaction from protein used in that form. The patients who did not like whole milk were given the casein as sweet or sour curd, made by junketing the milk and discarding the whey. In certain cases the yolks were omitted. The protein was given from three to six times a day. Very little starch was allowed, and that only once a day, as dry toast. The starchy vegetables, consisting mainly of the roots and tubers, were entirely omitted. Generous quantities of the non-starchy vegetables, flavored with unsalted butter, were given twice a day. Fruit was limited to once a day, and then was cooked, because the high vitamin B content tended to upset the liver function and to

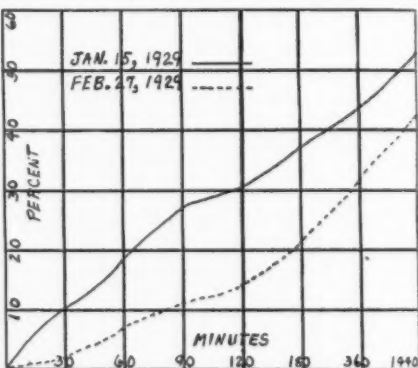


Fig. 3.—Male, 62. Diagnosis: Pyloric obstruction (neoplasm?), marked emaciation and asthenia. Rectal temperature, 94°F. when first seen. The *pre* diet consisted of casein and lettuce, and curd gradually increased until that from eight quarts of milk per day was being taken. In three months the weight was 145 pounds, it being 112 when treatment was begun.

increase the intestinal fermentation. No sugar was allowed. The main source of vitamin A was from the casein (which still contained the cream) and the yolks.

The patients were put at rest in bed more or less continuously and given daily baths and colonic irrigations. Only plain, warm water was used per rectum. Distilled water was given for drinking. Salt and all condiments, as well as coffee, tea and chocolate were strictly forbidden. In a few weeks, none of the patients missed their salt, although some found the methyl purin drinks hard to give up.

The improvement in health and strength paralleled the slowing of the sedimentation rate. There were also gradual gains of weight; while patients, who had suffered for years from cold extremities and what they called "poor circulation," noted that

they were much warmer and more comfortable generally. There was certainly better oxidation going on in their bodies, in all probability due to better adrenal function.

A word must be said concerning the illustrations. These three cases were kept under most careful observation and the diets were strictly adhered to. The study of the charts shows improvement of the sedimentation rates in all the cases. Also the cell volume improved in all cases but one, which was observed for only one month.

The amount of protein given was variable and suited to the requirements of the patient. The milk did not usually exceed three quarts a day, although one patient took the curd of eight quarts daily for several months. The yolks varied from one to six daily.

During the time that these cases were being studied, several other patients, suffering from similar ailments, were given low protein and high sugar-starch-fruit diets. This regime was continued for only a few weeks, as the digestion was upset. There was much intestinal fermentation and gas, and the patients became very uncomfortable. Many complained of headaches.

It is of interest to note here that recently, in Sauerbruch's clinic, Gerson and Hermansdorfer⁶ showed that a very heavy protein diet reduced the susceptibility to infections and that a diet rich in carbohydrates favored the development of tuberculosis. Grove, Olmsted and Koenig⁷ also showed that a diet high in carbohydrates greatly increased the volatile fatty acids of the stool, especially acetic acid, which means excessive fermentation.

Nearly forty years ago, Salisbury⁸, using healthy men as laboratory animals, showed the great harm that followed exclusive diets of carbohydrate, such as navy beans and army biscuit. None of my cases who were on the low protein, high sugar-starch-fruit diet (which resembled in every way what is known as the "normal diet") showed any general improvement or any slowing up of the sedimentation rate. Such a diet offers little for tissue repair.

CONCLUSION.

Evidence is offered supporting the hypothesis that health, a high degree of body resistance and proper adrenal function depend upon the proper choice of dietary protein.

It is suggested that the erythrocyte sedimentation rate may serve as a check on varying degrees of health.

During the period of recuperation, no matter what the previous disease, repair of body tissue depends chiefly upon the amount and kind of protein in the diet.

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TYPES OF HEALERS

The aim of medicine is the cure of the sick. A multitude of ways have been attempted to that end, and the number as well as the variety justifies the scepticism which medicine has often inspired, so debasing it with all the lighter minds and with the crowd incapable of discernment and of distinguishing facts from shadows with which ignorance, vanity, and often the most shameful passions have surrounded them. These ways, so diverse in appearance can, however, be reduced to three categories; the empirics, the etiologists, and the observers.—Laënnec.

The Evaluation of Detoxication by the Liver

By HENRY R. HARROWER, M.D., *Glendale, California*

AS OUR knowledge of biochemistry grows, it becomes increasingly clear that many of the most common problems that have to do with chronic disease are likely to be solved more satisfactorily than ever before by utilizing this comparatively new information.

It is well known that toxemia and detoxication cause or oppose, respectively, the conditions that underlie practically every chronic disease. If an unusual toxemia is present, regulatory influences, particularly relating to the function of the glands of internal secretion, are interfered with; and the success or failure of treatment depends upon the efficiency with which the body is capable of detoxicating or destroying these added poisons.

Since the perfection, in our laboratory in 1925, of the hepatic detoxicating hormone, known as Anabolin, our interest has been directed especially to the study of the capacity of the liver to destroy poisons; and, in view of the importance of this and the fact that it complicates almost every chronic disease, it may be of interest to consider some methods of evaluating the efficiency of hepatic detoxication.

First, let us recall that the liver is situated between the two great circulatory systems of the body. On one side of the liver, the portal circulation brings to it blood from the digestive tract, carrying, not only the food materials, but also an unfortunately large proportion of poisonous substances, either ingested or produced in the alimentary canal, which the hepatic cells are supposed to convert into less noxious material before the same blood enters the general circulation and is carried throughout the organism. It is easy to see that, if the liver fails to detoxicate properly, many of the poisons that should be stopped by this "great physiologic barrier" will be scattered through the whole body, with results varying from toxic headache to high blood-pressure, or the sclerotic degenerative diseases.

In view of the importance, of the hepatic detoxicative chemistry, it is reasonable to concern ourselves with some simple methods whereby it can be studied, in order that we may be led to measures to hasten these necessary processes.

Detoxication by the liver is based on the faculty of the hepatic cell to build up the various poisons, including the protein-split products, into urea and other innocuous substances. Not only is ureagenesis important in detoxication, but the study of it is necessary in the consideration of this broad problem. Patients who, on a normal diet, eliminate one-half or less of the average twenty-four-hour urea figure are certainly not detoxicating other material properly; therefore, it is reasonable to suppose that a low urea figure is an index of a reduced hepatic detoxication. It is understood, of course, that quite wide variations in the urea elimination can result from dietetic modifications. For example, a diet rich in proteins will cause a high urea index, while a fruit diet, on the other hand, will reduce it. This must be taken into consideration when using the urea index as a guide.

Studies of the blood chemistry enable us to supplement the information regarding ureagenesis. The nitrogen metabolism, in which the liver plays the predominant part, can be used to determine whether the liver is performing its work properly. Especially, can the blood uric-acid index confirm the presence of an hepatic detoxicative defect. For example, Dr A. M. Fishberg,¹ of New York, noting an increased blood uric-acid in patients with essential hypertension, offered the opinion that this toxemia causes a circulatory strain that is responsible, in part, for the increased pressure. He lays stress on the uric-acid index as an indicator of a fundamental change in metabolism.

Again, the famous French internist, Glénard², insists that, to the list of hepatic functions, there must be added a regula-

tive action of the acid-base equilibrium. Bearing in mind the foregoing suggestions about the uric-acid metabolism, there is a renewed interest in my own efforts of twenty years ago to emphasize the frequency of the relation of hyperacid urine, indicanuria, and high urinary ammonia, to these chronic cases. Professor Glénard, for example, proves that the hepatic tissue constitutes a reservoir of alkaline ions, intended to balance variations in the hydrogen-ion content of the blood coming through the portal system. This valuable, but little known, faculty enables the liver to distribute the alkaline ions to the organism just as required, exactly as it is capable of doing with both sugar and albumin. A marked and prolonged tendency to highly acid urine* should direct attention to the liver and, according to the French school, is an evidence of a breakdown in its detoxicating function.

URINARY ACIDITY

Incidentally, it may be remarked that attention frequently has been called to a sudden and marked drop in the urinary acidity following injections of Anabolin in essential hypertension. Indeed, I was assured by the late Dr. H. Edwin Lewis, of *American Medicine*, that he had frequently seen it work "as though an alkali had been given." This may have been due to the catalytic stimulus to the liver, which enables it to release these alkaline ions.

Suffice it to say that, in cases of presumed defective hepatic detoxication (especially in cases of hypertension), it will be noteworthy how often a high acid-urine index will be found. This acid index is, of course, well known. In 1908, I devised a little instrument, known as an acidimeter³, which enables one to estimate with close accuracy, not only the degree of acidity of the specimen itself, but also the twenty-four-hour acidity.

The usual method is to collect a complete twenty-four-hour specimen of urine, measure it, and titrate it with N/10 sodium hydrate solution, with phenolphthalein as an indicator. The acidity, in degrees, is the amount of soda solution, in cubic centimeters, required to neutralize 100 cc.

*This does not mean concentrated urine of limited amount and high acidity, but a twenty-four-hour urine in which the total amount in cubic centimeters, multiplied by the acidity in degrees, is consistently higher than the normal figure, which averages about 40,000 units.

of urine (10 cc. is used, and the result multiplied by 10). The acid index (acid units) is this figure, multiplied by the total twenty-four-hour quantity. Thus, if 10 cc. of urine requires 6.5 cc. of soda solution to produce the initial change of the indicator to pink, $6.5 \times 10 = 65$, or the acidity in degrees. The twenty-four-hour quantity being, let us say, 1600 cc., the acid units amount to $1,600 \times 65$, or 104,000. The average normal is about 40° and from 40,000 to 50,000 units.

Still another urinary test indicates the perfection with which the liver is destroying the wastes that come to it. This is the test for urinary ammonia. Under normal circumstances, the liver is capable of transforming all the ammonia products brought to it into urea. If, however, there is a considerable degree of hypohepatism, the ureagenetic capacity is insufficient, the ammonia is not completely changed and, consequently, the amount excreted in the urine is increased. The normal daily amount of the uncombined ammonia passed through the kidneys is very slight—perhaps 0.5 Gram in twenty-four hours—for practically all these urea precursors are anabolized by the liver into urea. Malfatti's test enables one to measure this figure conveniently and, in cases with high urinary acidity and indicanuria, it is common to find the total urinary ammonia increased 300 or 400 percent above the average normal.

While I was interested in developing an appreciation of these laboratory studies and trying to make it easy for the general practitioner to carry them out with a minimum of time and inconvenience, I found, in my own work, that high urinary acidity and indicanuria commonly are concurrent, and, therefore, suggested that examination of the urine for acetone and diacetic acid should follow the finding of high acidity or indicanuria, or both.

INDICANURIA

The ease with which the indican test can be made, makes one feel that, in comparison with the complex and technical colorimetric procedures with the study of dye elimination, customary in the evaluation of the extent of hepatic disease (the van den Berg test; the Rosenthal test, with tetrachlorophthalein; and the Delpar test, with rose bengal), an Obermeyer test for indican is too simple to be mentioned.

Nevertheless, it is intensely valuable, for indican and the waste products with which it is commonly associated *should be destroyed completely by the liver.*

Dr. W. M. Barton,⁴ of Washington, D. C., suggests that a spontaneous indicanuria is dependable evidence of a breakdown in hepatic detoxication, or the form of hepatic insufficiency that I have called "hypohepatism," in contradistinction to the usual biliary insufficiency. He suggests a qualitative test to bring about what he calls "provocative indicanuria." In cases in which indicanuria is found, it is not difficult to reduce the amount of indican by putting the patient on a fruit diet for two or three days. The success of this procedure having been verified and the urine having been found free from indican, 1 mg. of indol may be given to the patient in the morning, on an empty stomach. Barton suggests that specimens of the urine should be collected every four hours and examined for indican. The liver should be capable of entirely destroying such a quantity of this substance, and, if indican appears in the urine, one may assume that the hepatic detoxicative mechanism is not functioning properly.

Another "provocative test" is possible, which enables us to see how well the liver behaves toward suitable quantities of an ammonium salt. Barton suggests that a conformity test with ammonium acetate may be employed in such cases. It is a bit tedious but, nevertheless, highly useful: First, determine the average twenty-four-hour ammonia excretion for two or three days. The patient is then given 6 Grams of ammonium acetate, by mouth, and the twenty-four-hour specimen is tested for ammonia. Barton believes that any considerable increase of ammonia in the urine, after taking this material, always indicates an impairment of the functional integrity of the liver cells.

Another quite simple urinary test may be mentioned here: Dr. M. Roch⁵, of Geneva, suggested a test based on the fact that the salicylates cause the production of glycuronic acid in the liver. An hour after an early breakfast, administer 6 grains of sodium salicylate. One hour later, the urine is passed at intervals of two hours throughout the morning. These specimens are tested separately. Five (5) cc. of the urine is carefully overlaid upon a 1-percent solution of perchloride of iron

in a test-tube. A violet color at the contact of the two liquids is a positive reaction. The normal liver is believed by Roch to be capable of completely transforming this amount of salicylate, or at least it will not allow sufficient amounts of this product to pass to give the reaction. On the other hand, in patients with hypohepatism, the capacity of the liver cell being defective, various amounts of the salicylates are permitted to escape, which, when eliminated through the kidneys, cause the reaction described.

THE INDOL TEST

Hepatic function testing is not generally carried out, and, so far as I am aware, is considered only in the further study of known liver disease. As I see it, it would be very much better if a test of hepatic detoxicative function could be carried out in every instance of chronic toxic disease, for the physician who routinely studies the elimination of the twenty-four-hour urea, the total acidity (in degrees and units), the indican, and perhaps, the ammonia, will be able to serve his patients very much more satisfactorily.

The provocative indol test appeals to me as being the simplest and quite the most convenient of the various unusual tests outlined here. In view of the fact that a study of this aspect of detoxication leads the way to measures vitally important in the treatment of chronic disease, I have decided to offer materials to my friends in such a form that they can be used quickly and conveniently. Indol is not easily obtained; it is an expensive product (\$200.00 a pound), and certainly is not found in the drug-stores. So, for the convenience of my friends (and this includes the readers of CLINICAL MEDICINE AND SURGERY), I shall be glad to send enough material to make ten provocative indol tests, complementarily, on request. Printed instructions regarding the procedure will accompany the materials.

A study of the detoxicating powers of the liver, which adduces suggestive evidence of the presence of the condition called hypohepatism, is of decided and every-day clinical advantage in general practice. Wherever a reduction in the hepatic detoxicative service is discovered, the obvious treatment is to spare the liver by regulating the diet and by hygiene, and to attempt to encourage hepatic detoxica-

tion, preferably by the use of the catalytic hormone principle, Anabolin.

It should be said, in conclusion, that Anabolin is by no means limited to the treatment of functional hypertension, as originally outlined. It is a means of hastening the detoxicative speed of the liver, and this, of course, is helpful in a very large range of chronic disorders.

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Varied Results of Colonic Stasis

By G. M. RUSSELL, M.D., Billings, Mont.

THE article on myofascitis, by Dr. Albee, in the *Journal of the American Medical Association*, of November 3, 1928, in which he makes the statement that, in sciatica, lumbago, sacro-iliac strain and muscular rheumatism (symptoms frequently attributed to flat-foot), ten percent are caused by focal infections around the teeth and tonsils and ninety percent to infections from the colon, suggests the reporting of my experience with a number of different conditions, the cause of which was proven, by the treatment and results obtained, to be nothing but ordinary constipation or latent constipation.

CASE REPORTS

Case 1.—Mr. W., age 35, had been troubled for seven years with what had been diagnosed as lumbago. For two years he had been unable to work.

After the rather meager methods of examination I was able to give him, being at the time in a small town, without much equipment, I concluded that his trouble emanated from the bowel. This he refused to believe, on account of the fact that his bowels moved once or twice a day.

Inasmuch as he had been treated by dozens of physicians, with no result whatever, he was in a frame of mind to try anything offering a prospect of relief. After a few days' treatment he began passing material from the bowel that surprised me, as well as himself, and by the end of a week or ten days of thorough colonic cleaning, his lumbago had entirely disappeared and did not return.

Case 2.—Mrs. C., age 36. Her condition had been diagnosed as "nervous prostration," from which she had suffered, more or less, for twelve years. She had been under the care of one physician during this time, and whenever she had severe attacks his treatment consisted of rest in bed, light foods and bromides. She looked like a woman of 60, had not been out of her yard for a year and was very despondent.

There was nothing in her history that was at all remarkable, and physical examination gave evi-

dence of no organic trouble. About the only thing that was discoverable was tenderness over the colon.

The experience I had had with Case 1, together with the fact that she was constipated, suggested the cleansing of the colon, which was done by the use of enemas of 2 quarts of water with $\frac{1}{2}$ to 1 ounce of sodium bicarbonate, given in the knee-chest position, followed by cotton-seed oil enemas (1 pint; later, $\frac{1}{2}$ pint), retained over night.*

She was put in bed for two weeks with forced feeding, pushing food up to between 5000 and 6000 calories a day, consisting of whole-wheat bread, coarse vegetables and large quantities of cream (1 to 2 pints a day) and butter (6 to 8 ounces a day.) Associated with this I gave her deep vibratory treatments over the colon daily. This was done with one of the larger vibrators that gives up-and-down strokes of $\frac{1}{4}$ to $\frac{1}{2}$ inch.

At the end of two weeks, graduated exercises were begun, so that by the end of six weeks she was walking from three to four miles a day. By this time she was completely recovered, rosy-cheeked, tripping along like an eighteen-year-old school girl. It was certainly a remarkable transformation, and it was difficult for her friends to realize that such a sudden change could possibly have taken place.

Case 3.—Mrs. B., age 48, had been troubled for several years with her stomach. About six years previous to consulting me she had had an operation, probably for an ovarian cyst, judg-

*Since the experiences here related, I have somewhat altered the water enemas, using, instead of the sodium bicarbonate, from 3 to 4 ounces of magnesium sulphate. I have three such enemas given on succeeding nights, with the use of the oil enema after the water enema has been completely evacuated. I then use $\frac{1}{2}$ pint of the oil alone, every night for three nights, and then, on the seventh night, have a similar water enema given, followed by $\frac{1}{2}$ pint of the oil. Usually, from then on, the coarse food with the excess of butter fat will succeed in producing a satisfactory daily bowel movement. Notwithstanding this fact, I insist upon a cleansing enema, followed by $\frac{1}{2}$ pint of the oil, every fourth night for a considerable time.

In cases that are especially obstinate in responding to the magnesium sulphate enemas, I add two ounces of H_2O_2 , and keep up the nightly enemas, followed by oil, for the time that seems necessary to get the colon thoroughly cleaned out.

ing from the vague description she could give me.

When the present trouble came on she consulted several local physicians and, getting no relief, she went to some physicians in cities nearby, without results, and finally to a sanatorium, where another cyst, similar to the one that had been removed, was diagnosed, but she refused operation. When she consulted me she was very much emaciated, was vomiting several times daily and was in such condition that she spent most of her time in bed. Her history was negative. Examination revealed nothing organically wrong. There was no focal infection and, as there was no other apparent cause for her troubles, I assumed that it was due to constipation, which was proven to be right by the results obtained, for in one month her vomiting ceased, her ability to take food without distress returned, her weight came up to normal and she was able to plant and take care of a large garden that summer, for the first time in several years. The treatment was similar to that given in Case 2.

Case 4.—Mrs. W., age 25, had had pain and discomfort in the lower right abdominal quadrant, which, after thorough examination, I diagnosed as colitis. She had suffered for several years and had consulted an eminent internist in Seattle, who had made the same diagnosis but had failed to give her any relief. Finally she consulted a surgeon who was associated with the internist and asked him to remove her appendix. He told her there was nothing wrong with her appendix, but upon her insistence he did remove it, found no disease, and she continued having the pain and discomfort.

I placed her on the coarse foods, together with water and oil enemas, the latter retained over night, as in Case 2, and gave her vibratory treatment over the colon. By the end of one month she had no further trouble—the first relief she had had.

Most clinicians and authorities tell us that, in colitis, bland, refined foods should be used; but I have found that von Noorden is right in using coarse foods—that as soon as the constipation is overcome, the colitis disappears. His little volume on colitis is well worth any one's time in reading, if interested in this malady.

The foregoing cases were observed before the advantage of barium meals and rotary transformers were in use and when laboratory technic was not a routine procedure.

Case 5.—J. M. H. Several months previous to consulting me he had drunk, by mistake, some electrolyte, which had burned his stomach quite severely. While he recovered from the immediate effects, thanks to the very efficient handling of his case by the attending physicians, he was practically an invalid for a period of over a year. He had almost constant pain, was afraid to eat and was so tender over the abdomen that it was impossible to examine him, the slightest touch causing intolerable pain. He was considerably emaciated and was barely able to walk.

Gastric analysis revealed practically normal secretion. X-ray study showed no deviation from normal, except delayed evacuation of the barium from the bowel.

He was placed on the coarse foods, with excess of butter fats, and the colon was emptied every night with the water enema, followed by the oil retention enema. It took, positively, three weeks to clean his colon out. He recovered sufficiently, in six weeks, to enable him to go to work.

Case 6.—Mrs. C. C. D., age 43. This woman's ailment had been diagnosed as "nervousness" by her former physician; at least, that is all he told her was the matter with her.

There was nothing in her history, either personal or family, that had any bearing on the case. Physical, laboratory and x-ray examinations were negative, aside from long retention of barium in the colon, and the carmine test also revealed delayed evacuation of colonic contents. She weighed 75 pounds and was taking less than 1000 calories of food a day. She was introspective and self-centered.

I put her to bed for two weeks, with a trained nurse, and ordered enemas of water with sodium bicarbonate, followed with oil retention enemas as in Case 2. We pushed the coarse foods and large amounts of butter fats to such an extent that she was taking more than 6000 calories a day.

At the end of the first thirteen days she had gained 17 pounds, and in six weeks had gained 37½ pounds. I also used the vibrator. Considerable psychotherapy was necessary, on account of brooding over past conditions. She has been well ever since.

Case 7.—C. P. W.; male; printer; age 41.

Past history: He had had malaria, touches of rheumatism, gonorrhea, and a light attack of smallpox, also an operation for supposed chronic appendicitis, fifteen years before, which gave no relief. He had consulted a good many physicians, all of whom diagnosed gastric ulcer and suggested operation, which was refused.

Present complaint: Attacks of vomiting—has pain in the pit of his stomach, then vomits, after which he feels relieved. This occurs several times a day; but sometimes he does not have it for a week. He has had this trouble, off and on, for fifteen years and has been getting worse. The vomitus is bile-like, with small particles of undigested food. No pain is present at night, but he has it when he gets up in the morning. Frequently, while walking along the street, he has to step to the curb and vomit. His bowels have been constipated for years.

Examination, physical, gastric, duodenal-drainage, x-ray and rectal, gave no evidence of pathologic changes, except delay in the evacuation of barium, which fact was emphasized by delay in the evacuation of carmine; fecal examination, negative; blood count and smear, normal; Wassermann test, negative. He was emaciated and had a "prison pallor."

He was placed on coarse foods, with excess of butter fats, and his bowels were emptied by enemas of water and retained oil.

Within forty-eight hours his pains ceased and the vomiting stopped. He gained five pounds the first week, and one would not have recognized him as the same human being at the end of six weeks.

CONCLUSIONS

These experiences have taught me never to take a patient's statement as to proper action of the bowels as final; and that many obscure conditions have their origin in an inefficiently acting colon. It is only reasonable to expect that, where there is retention of the material that should be evacuated daily, gradually accumulating from day to day, in the presence of countless bacteria, warmth and moisture, there will be putrefaction, resulting in the formation of toxins; and that these toxins will be absorbed and distributed by the blood to all portions of the body. Tissues bathed in toxin-laden

fluids will suffer, and no one is wise enough to predict the number and character of pathologic changes and variations from normal function that may result.

There is no one organ or combination of organs that should be so carefully examined and its proper functioning questioned and checked as the colon. It is quite evident that a multitude of acute and chronic ailments can be directly caused by its failure to perform its duty properly. But this human sewer is as constantly and regularly ignored and overlooked by the average practitioner, as is also the proper examination of the rectum.

Tunneling of the Prostate

By B. SHERWOOD DUNN, A.M., M.D., *Nice, France*

Consulting Physician, Anglo-American Hospital

FORAGE of the prostate was conceived and perfected by Dr. Georges Luys, of Paris, to replace transvesical prostatectomy, in selected cases. It now has behind it about twenty years of clinical experience, with a percentage of success which guarantees to it a prominent place for the relief of prostatic hypertrophy.

Forage is a French word which, translated, means "tunneling"; therefore, *forage* of the prostate means to pierce a "tunnel" through the hypertrophied prostate, on the line of the urethra, thereby enlarging and straightening this canal so that the bladder can empty itself at each miction, leaving no residue.

To define the difference between *forage* and prostatectomy, we cite this capital point: the volume of the prostate, no matter how large, cannot be taken as a basis to estimate the quantity of the vesical residue; numberless are the cases where patients with enormous prostates have had a very small vesical residue, and, on the contrary, many patients with small prostates have a vesical residue of from 300 to 600 cc. It is the *obstacles* that we must attack in a *forage* of the prostate, and not the prostatic mass, for the object of this operation is to restore normal miction.

The prostate being a urethral gland, the physiologic and pathologic anatomy of this organ fully justifies this procedure.

The reason for and degree of retention caused by the change in the prostate cannot be determined by a superficial rectal examination; full knowledge of the existing conditions can be secured only by an endoscopic examination.

In all cases of dysuria caused by the hypertrophied prostate, two conditions are always present:

First; the hypertrophy manifests itself by prolongation of the prostatic urethra, situated between the neck of the bladder, behind, and the posterior border of the verumontanum, in front. This hypertrophied prolongation of the prostatic fossa can attain considerable antero-posterior dimensions, extending to 6.8 and even 10 centimeters in length.

Second; when a straight urethroscopic tube is introduced deeply into the urethra, it cannot pass into the interior of the bladder, being arrested by the elevation of the vesical neck. The elevation of the neck of the bladder, forming the posterior border of the prostatic fossa, forms a veritable dam between the bladder and the urethra, obstructing the complete evacuation of urine and having a slight vesical inclination and a rather abrupt urethral inclination, almost vertical.

Not the least important of the causes of dysuria is the gluing together of the two

prostatic lobes, which progressively reduces the urethral caliber, forming an antero-posterior canal, which, ordinarily, is very irregular in form. These two causes of dysuria are completely destroyed by *forage*.

TECHNIC

Tunneling of the prostate being an entirely new procedure, it became necessary to have special instruments for its performance, and these have been created by the genius of Dr. Luys.



Fig. 1.—The dotted line shows the initial incisions to the point of the V, which is on a level with the base of the bladder. The shaded portions show the canal when completed.

The operation is accomplished by means of a cystoscope of direct vision. The magnifying glass through which the operator observes the interior, has now been replaced by a metal band to fit the head of the operator and holding a double magnifying glass, adjusted directly in front of the eye.

In introducing the cystoscope, care must be taken to see that the vesical end of the instrument is on a level with the base of the bladder; and then, directly under the eye of the operator, the prostatic bar or dam, existing between the urethra and the vesical opening, is sectioned by the electrocoagulator and this section is gradually made larger and larger, in the shape of a V. In this first stage of the operation, care must be taken that the inferior point of the V comes well to the bottom of the bladder, and thus a regular trench is formed. The actual cutting by the electrocoagulator is never carried beyond 10 to 30 seconds.

The second stage of the operation consists in destroying the lateral lobes of the

hypertrophied prostate by bringing the cystoscopic tube from behind forward, little by little, and slowly creating a veritable tunnel, which, to accomplish its full purpose, must commence at the neck of the bladder and end at the posterior border of the verumontanum, as shown in Fig. 1.

Examining the two lateral lobes of the hypertrophied prostate through the cystoscope, the operator can readily determine their different aspects; their condition of irregularity, distorting the calibre and course of the prostatic urethra; and frequently the two lobes are found glued to each other on a vertical or oblique line, though sometimes they are slightly distant from each other.

The *raison d'être* and the usefulness of *forage* of the prostate are that it renders these irregular lateral masses smooth and regular; that it straightens out the crooked canal; and transforms a tortuous, constricted passage, through which the patient can force only a dribbling stream, into a canal of normal calibre and straight, actually forming a new prostatic urethra, by the aid of which the subject experiences the joy of restored normal miction, with a jet of normal calibre and strength. It is only by attaining this result in the whole extent of the prostatic fossa, in length and in height, with the tunnel well rounded, so that the cystoscopic tube can be passed without any difficulty, that the operator can be confident that the patient will, not only micturate easily, but that he will completely empty his bladder.

Except in very rare cases, it is preferable to perform this operation in several seances, with intervals of 8 days between them. From 3 to 6 seances are usually sufficient.



Fig. 2.—The cutting instruments attached to the electrocoagulator. One in the form of a lancet, one spiral, and one hoe-shaped.

The destruction of the prostatic bar and the occluding portions of the hypertrophied prostate, is accomplished by the aid of the electrocoagulator (see Fig. 2). Its action is very rapid and it removes the tissues almost as readily as one would scoop out a potato with a knife. There is no hemorrhage following its action and, moreover, the small eschar formed in its tract

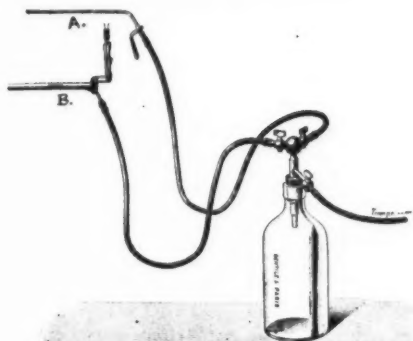


Fig. 3.—Glass bottle with 3-way stopper, each with stop-cock. (A.) Mobile aspirator; (B.) Aspirator incorporated in cystoscope.

is very adherent and prevents any post-operative hemorrhage.

The surfaces must be kept as dry as possible for the operation of the electro-coagulator and, to secure this condition, Dr. Luys has invented a very ingenious process, which is accomplished by aspiration, consisting of two systems, one of which is effected by a mobile aspirator of sufficient length to extend beyond the tube of the straight urethroscope; the handle being curved at an obtuse angle, in order not to interfere with the vision of the operator (see Fig. 3-A). The second aspirator forms a part of the cystoscope and is a fine tube which slides in a pocket at the base of this instrument, extending as much as 2 or 3 centimeters beyond its tip and aspirating the fluids in advance of the field of operation (Fig. 3-B).

These two aspirators are attached to a glass bottle, having a stopper armed with three tubes, each having a stop-cock; the two aspirators are attached to two of the tubes of the stopper and the third is attached to the water pipe, which creates the suction. The glass bottle accumulates the secretions transported by the aspirator tubes and does not interfere with the water pipe (see Fig. 3).

The cutting instruments, shown in Fig. 2, are attached to an endo-urethral electrode, for electrocoagulation.

OPERATIVE INDICATIONS

The operative indications for the application of *forage* of the prostate are much more numerous than those for a transvesical prostatectomy. A considerable number of patients suffering from prostatic dysuria have a diseased prostate of small volume. It is in these cases, preeminently, that *forage* finds its full justification.

There are some cases having a voluminous hypertrophied prostate, through the center of which the opening of a restricted canal can be discerned, permitting a dribble of urine; in these cases a tunnel can be formed by the *forage*, which will restore normal micturition.

In many cases of hypertrophy, where the patient has delayed active intervention for so long a period that his physical, mental and moral condition render a transvesical prostatectomy unadvisable, *forage* offers a welcome means of relief, as the operation is simple and entirely benign; nothing but a slight local anesthesia is employed, causing no reaction upon the patient; and he is committed to bed for only a few days following each seance which, in subjects predisposed to pulmonary congestion, forms an element of the highest importance.

Forage is contraindicated in those cases of stricture of the urethra which resist dilatation, for the reason that, in order to perform the operation it is absolutely indispensable that the canal should be dilated to the extent of a Beniqué sound, No. 60.

The limits of space accorded a magazine article preclude my giving the clinical results in a few selected cases where a miracle seems to have been performed; but I will be pleased to furnish the details of these cases to any reader who may address a request to me for the same.

54 Bd. Victor Hugo.

THE HEALTH BALANCE

Health is like a bank account, it doesn't automatically replenish itself. Checks cannot be drawn continually without occasional deposits. And one of these deposits must take the form of pleasurable active exercise out of doors.—DR. L. LANGSTROTH, in Survey Graphic, Jan., 1930.

THE SEMINAR

CONDUCTED BY

MAX THOREK, M.D. (Surgery)

GEORGE B. LAKE, M.D. (Medicine)

[*Note:* Our readers are cordially invited to submit fully worked up problems to the *Seminar* and to take part in the discussion of any or all problems submitted.

Discussions should reach this office *not later* than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to *The Seminar*, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

PROBLEM NO. 4 (SURGICAL)

Submitted by Dr. N. E. Gobbel,
English, Ind.

(See CLIN. MED AND SURG., April, 1930,
p. 291)

Recapitulation: A woman came for diagnosis of probable pregnancy. She had no morning sickness nor marked breast changes (as in former pregnancies); but her menstruation had been very irregular (though not wholly absent) since Sept., 1928, and her abdomen had been enlarged for more than nine months. On July 6, 1929, bleeding began and a physician said she would be confined within the next week. She bled again on July 27 and Aug. 17 and was seen Aug. 26.

History showed an attack of lower abdominal pain, with vomiting and fever, one year previously, for which no physician was called.

Examination revealed an abdomen equal in size to that of a woman eight months pregnant. The breasts, vagina and cervix were those of a non-pregnant multipara. The fundus of the uterus could not be palpated. There were no fetal heart sounds, and a roentgenogram showed no fetal bones.

Requirement: Diagnosis and treatment.

DISCUSSION BY DR. J. R. SMITH,
WARSAW, MO.

From the history of this case, the first thought might lead one to suspect extra-uterine pregnancy, but the x-ray photograph proves this theory erroneous and leaves but one tangible suspicion, based on the attack that occurred one year before, with pain in the right lower abdominal quadrant, which was probably the beginning of congestion and the development of a cystic tumor of the right ovary. This passed off in a few days and was not noticed by the patient until the distention of the abdomen became apparent to her, and deceived her attending physician.

At this stage, the finding of the normal cervix uteri, firm to the touch and $\frac{3}{4}$ inch in length, ought to have been sufficient proof that there was no pregnancy, otherwise the cervix would have been patulous and almost obliterated from the internal expansion. This would lead us to diagnose her case as a non-malignant, ovarian, cystic tumor, as would be indicated by the doughy feel of the mass and the absence of other symptoms pointing to a cancerous condition (pain; solid, nodular mass; and cachexia).

The treatment should, in my opinion, be laparotomy and removal of the mass, as early as practicable, by the attending surgeon.

DISCUSSION BY DR. EMIL C. JUNGER,
SOLDIER, IOWA

This is, without doubt, a surgical case, and the patient is, what many eagerly desire to be, *not pregnant*.

The mass is, in my opinion, a pedunculated fibroid tumor of the uterus or an ovarian cyst; probably the latter.

The patient is old enough to be entering

the climacteric, so we need not hesitate in our surgical work. A laparotomy is indicated, to remove the pelvio-abdominal tumor, whatever it may be, and a hysterectomy should be performed if a tendency to fibroids is present.

SOLUTION BY DR. GOBBEL

After careful consideration we decided that this was a case for a laparotomy.

On opening down through the peritoneum, we found the omentum very yellow to light-brown in color and ranging in thickness from $\frac{3}{4}$ to $1\frac{1}{4}$ inch. The lower end was rolled up, from before backwards and upwards, and this roll at the bottom was probably 5 inches in diameter and extended the full width of the omentum. There were numerous hard or fibrosed areas in the mass and also over the entire omentum, above the mass or roll.

Microscopic section showed a simple increase in the stroma tissue of the omentum and excess of fatty tissue, with no evidence of any round-cell infiltration or malignant degeneration. The appendix showed evidences of former disease (the attack of about one year ago) and was removed at the operation.

I should like to hear the opinion of those who are in the habit of answering the Seminar problems. I remember very distinctly one which appeared some time ago (Oct. 1928, p. 755), in which the trouble was a twisted and necrotic or gangrenous omentum.

My diagnosis and that of the surgeon and his assistant was *ovarian cyst*, and every doctor to whom I have given the history and physical findings has given the same answer.

The disturbance of the menstrual periods and the fact that she thought she felt life were due to the fact that this roll of omentum was resting against the fundus uteri and the ovaries, and thus caused some disturbance of ovarian function; and uterine contractions against this mass made her think she felt life. This is my idea and I should like to know what others think of the case.

CLOSING DISCUSSION

BY DR. MAX THOREK, CHICAGO

The problem is interesting, of course, but not at all unusual. The case is one of definite pseudocyesis. Every physician of experience runs across such instances, from

time to time. At the present time we have two such cases under observation at the American Hospital. It is not at all unusual to encounter, in medical literature, cases where physicians have spent nights and days at the bedside awaiting delivery and the case finally turns out to be one of false pregnancy. If we are honest with ourselves, most of us can recall such cases in our own experience.

Of course, it is distressing to any of us to make a diagnosis of pregnancy, preparing for the event, the mother supplying herself with the necessary baby clothes, etc., and the expectant parents choosing a high-sounding cognomen to bestow on their offspring, and then to find ourselves all "scrubbed-up" for the occasion (sterile gowns, etc.) and to be faced with the painful situation of telling all concerned that it is not a baby after all that they may expect, but a rather poor substitute for one in the form of a tumor, uterine displacement, or perhaps a collection of flatus.

Distressing? Of course! But who does not make mistakes in diagnosis? It is only the proverbial Chinese doctor, with no lighted candles in his window, indicating that he has had no deaths, who can truly boast of no mistaken diagnoses—because he has had no patients. Many candles in the window usually connotes many patients, plenty of experience and the inevitable quota of mistaken diagnoses.

There are cases on record where pregnancy has been simulated by the woman, to force a man to marry her. On the other hand, the majority of these people truly believe themselves *enceinte*. The important factor in these cases is to arrive at a definite conclusion. This is particularly difficult if there be a heavy panniculus adiposus, a previous history of irregularity of menstruation, and a marked tendency to coprostasis.

So Dr. Gobbel, or anyone else who has considered, the possibility of pregnancy could not be justly criticised for such a diagnosis.

What possibilities are to be considered in the problem before us? This can only be worked out by a careful differential diagnosis. As far as the subjective manifestations of pregnancy are concerned, it is agreed that they can all be present in the neurotic or psychoneurotic individual. So, from a differential diagnostic point of

view, these are of little value, unless definitely corroborated by objective manifestations of gestation.

Most cases of pseudocyesis appear in women who are approaching the menopause. A fat deposit at that time is a natural sequence, a marked tendency to flatulence, coupled with a hysterical background and an intense desire, on the part of the woman, to become pregnant, and we have a complete setting for a case of false conception.

As far as mammary signs are concerned, we know from experience that, concomitant with the cessation of menstruation in the climacterium, breast changes will take place, even to the point of secretion of colostrum or milk. It is therefore, a wise plan not to accept any statements that the patients make, but to correlate all threads and weave a diagnostic entity on a sound structure.

The presence of fibromyomas, ovarian cysts, adnexal and extra-adnexal tumors etc., should be kept in mind in formulating a diagnosis. The x-rays are, of course, a very valuable aid and I am glad to note that their use was not omitted in this case.

Ovarian and abdominal pregnancies are possibilities and should be given due consideration. Some years ago I described a case in this Journal (February 1920) in which an extra-uterine pregnancy developed to term.

Ovarian fibroids have of late claimed considerable space in the literature and should be considered a possibility in the case under discussion.

With reference to the treatment of these cases, as a rule I am rather against exploratory procedures, unless there are definite indications to enter the abdomen. In many cases, exploratory laparotomy is most certainly contra-indicated.

In this case there was a tumor, which Dr. Gobbel described as "a large mass in the abdomen, of doughy consistency, a little more on the left side, dull to flat note on percussion. The tumor could be moved slightly." The diagnosis of neoplasm in this case was justified and consequently intervention was indicated. The diagnosis of a possible ovarian cyst, in view of the findings, was sound reasoning. I uphold the views of Dr. Smith and Dr. Junger.

I was very pleased to note that the Seminar readers are retaining some of the cases that are being reported from time to time. In this instance Dr. Gobbel was

apparently impressed with the case of "Torsion of the Omentum" which simulated appendicitis, which I made an issue for discussion. This indicates that the Seminar is serving an excellent purpose, for it does keep before us the possibilities in surgical problems and procedures. Let us continue the good work.

PROBLEM NO. 6 (SURGICAL)

SUBMITTED BY

DR. I. E. CRACK, HAMILTON, ONT.

On Saturday, Sept. 29, 1929, at 9 P.M., I was called to see a boy of 11 years of age, whom I found with a temperature of 100°F; pulse 85; and tenderness and rigidity of the abdomen, more marked in the region of the appendix.

The history given was that the boy had been taken suddenly ill on the previous Tuesday, with abdominal pain and vomiting. He seemed to improve until Friday, when the mother gave him a seidlitz powder, after which he became worse.

I advised immediate removal of the appendix, or consultation with a surgeon. The parents refused. Then I gave Dover's powder, gr. 5 (0.325 Gm.) and saw the child at 10:30 A. M. the next day, when the leukocyte count showed 25,000. The boy said he felt much better and had passed a comfortable night. The temperature was 98.2°; pulse, 80. The abdominal condition was unchanged. I again urged operation but could not get the father to consent.

At 5 P.M., the same day, the child went to the toilet and, while attempting to urinate, was suddenly seized with very severe pain and vomiting. When I saw him, about twenty minutes later, he was badly shocked and in very severe pain; temperature, 97°; pulse, 120; abdomen distended, rigid and extremely tender.

In the hospital, one hour later, an experienced surgeon advised expectant treatment, believing the chances better under such treatment than from operation.

With the Murphy drip, morphine, fomentations to the abdomen and nothing by mouth, the patient improved slowly, over a period of three weeks. The temperature became normal, the leukocytes were reduced to 7,000, he was eating and the bowels were moving, although the lower abdomen remained tender and rigid.

(Continued on page 455)

THE CLINIC

ASTHMA

The Asthmatic Child

By BURTON HASELTINE, M.D., F.A.C.S., Chicago

NO SITUATION in the practice of medicine presents a more striking contrast than the difference in results between the successful and the unsuccessful management of the asthmatic child. There is need to emphasize this contrast, because the great majority of cases are still under unsuccessful management and many physicians do not even know that a better method exists.

The following cases are reported to bring out this point. They are not peculiar nor exceptional cases. Similar results are obtainable, by similar methods, in all asthmatic children. These pitifully diseased children were restored to normal, not by tentative procedures nor by "trial and error," but by clear-cut programs, outlined in advance, and the results obtained were accurately predicted when treatment was begun. These patients had been exhaustively studied and extensively treated by experts, by the methods in common use, with entire lack of success. In this respect, too, they are, unfortunately, not exceptional. It will be noticed that, in these histories, no account is taken of heredity, as this has absolutely no bearing upon prognosis or treatment. Many other details are omitted, not as unimportant, but for the sake of brevity.

Case 1: A girl, aged thirteen, came under the joint care of Doctor Alvin La Forge and me in November, 1923. She had a history of bronchial asthma, without any considerable remission for about five years. The family history and condition during

infancy were not accurately known. There had been an apparently normal childhood until the age of six, when a tendency to "head colds" and bronchial coughs developed and, at eight years, a definite diagnosis of bronchial asthma had been made.

From nine to thirteen years of age the child was continuously under the care of specialists in pediatrics, and every form of treatment then in vogue was tried, without success. This included attempts to desensitize, with both specific and bacterial vaccines; the withholding of all foods to which reactions were shown; photo and radiation treatment; calcium therapy; benzol benzoate, atropine, iodine and various other drugs; and the surgical removal of tonsils and adenoids.

During these four years the child had gained only four pounds in weight and no single day had elapsed without the use of epinephrin, to control bronchospasm. The amount required had steadily increased and, during the last year, from eight to twelve injections, of fifteen minims (1 cc.) each had been given daily. The child was extremely emaciated and chronically cyanotic, with marked emphysema and thoracic deformity.

The essential factors in this case were found to be malnutrition, chronic constipation, impaired liver function, both as to elimination and carbohydrate metabolism, and chronic, bilateral ethmoid infection. A program of treatment was outlined, to cover a period of one year, the first few months to be intensive treatment, becoming

less so as relief was obtained. A prognosis of complete relief of bronchospasm was given, but it was estimated that not less than six months would be required to obtain such relief that epinephrin could be entirely dispensed with.

This patient was hospitalized for one month, during which time the constipation was corrected, normal general elimination was restored and the ethmoid infection, which had been treated daily by the Dowing method, was markedly reduced*. It was then possible to obtain normal rest at night by the use of only one, ten-drop injection in twenty-four hours and, as all restrictions of diet were removed, the general nutrition was better.



Fig. 1

Fig. 2

It was now deemed safe to employ a general anesthetic and, under ether, the badly degenerated ethmoid turbinates were removed, but the ethmoid cells were not opened. Following this, the patient left the hospital and reported for office treatment twice weekly.

As had been predicted, it required practically one year to free this girl from bronchospasm, and even during the second year an occasional five minim (0.325 cc.) dose of epinephrin was necessary for slight wheezing, which occurred when she had what was called a "head cold." At the end of one year she had gained seventeen pounds in weight, had no emphysema and the thoracic deformity was greatly diminished. She was attending school regularly, which she had not been able to do for four



Fig. 3

years. A strict regime was outlined for the second year, which included rather close supervision, with prompt attention to any slight recurrence of either general or rhinologic factors.

On December 1, 1925, the patient's weight was ninety-five pounds, a total gain of forty-one pounds. She had had no asthmatic symptoms and had taken no epinephrin for six months. On September 15th, 1926, the weight was 105 pounds; no return of symptoms had occurred; and no treatment was needed.

This patient has been under observation since that time and has had treatment for "head colds" when needed, but the entire winter of 1929 and 1930 was passed without nasal treatment.

I have been able to obtain photographs of this child at different periods, which are reproduced herewith. The first (Fig. 1) is at the age of four and one-half years, before any asthmatic symptoms appeared—an apparently normal and well nourished child. The second (Fig. 2) is a snap-shot, made at the time of beginning treatment with us, after three years of continuous unsuccessful treatment. Large doses of epinephrin were necessary to make possible even the taking of this picture. The

*Details of the treatment given these cases are here omitted, because they would be too extensive for this clinic. The entire subject was well covered in the "Symposium on Asthma," in *Med. Journ. and Rec.*, Nov. 6 and 20, 1929.

emaciation here shown was due to continuous bronchospasm and by efforts to relieve it by diet restriction. The last picture (Fig. 3) shows the girl at nineteen years of age, free from asthma and normally developed.

Case 2: A boy, age 13, who had suffered with bronchial asthma for three years, came under the joint care of Doctor La Forge and me in October, 1926. He was referred to us by Doctor W. G. Merrill of Wisconsin Rapids, Wisconsin, who has furnished us a complete history, including copies of recommendations from one of America's finest clinics, where the boy had been subjected to a thorough study, with the result that he was advised that the only hope of relief consisted in a change of climate. Following this, he had spent three months in Arizona, without relief.

In January, 1926, a partial removal of the right ethmoid turbinal had been made, and this procedure was followed by the usual shrinking and spraying treatment, with no effect upon the bronchospasm. The result of our examination is best shown by our report to Doctor Merrill, which was as follows:

"Mr. J. of your city brought his son to us, according to your recommendation, and we have given him a careful examination. The boy has, as you know, a typical and severe case of bronchial asthma, of about eight years' duration. We have carefully reviewed the records of previous examinations made in the various clinics to which the boy had been referred. All these reports are of little value, because the essential pathologic conditions are not mentioned. Following are our findings:

The predominant factor in this case is rhinologic. He has a chronic, bilateral, suppurative ethmoiditis, with secondary antrum involvement and possible, but not probable, sphenoid infection. The extra-nasal factors are slight, but there is mild chronic appendicitis, which is probably a factor in producing the slight intestinal toxemia which is present. Urinalysis shows a moderate acidity with very slight indicanuria and a low degree of carbohydrate intolerance. The blood picture is one of infection, shown by leukocytosis with marked eosinophilia, but resistance is good, as shown by the differential count.

Treatment: No surgical measure is advised, at present, for the appendicitis, as the intestinal condition can be corrected, at least for a time, by other measures. This is to be carefully watched and probably, later, an appendectomy will be needed. The nasal infection should be treated both surgically and non-surgically, but no operation should be done until the infection has been reduced considerably. There is a history of a tonsil and adenoid condition which has been very well corrected by operation, but the rhinologic treatment given the boy has

only increased the difficulty, by an operation which was neither indicated nor well performed.

Prognosis: Following a few months of proper nasal treatment, improvement will be shown by an improved blood and urine picture and the bronchospasm will be markedly lessened, so that the child will sleep normally and improve in general vitality. The carbohydrate intolerance will disappear with detoxication. He will have a better appetite and such sensitization to food as may exist will disappear. The emphysema will diminish and, in time, disappear, after the complete cessation of bronchospasm. By the proper sequence of rhinologic procedures, the nose will ultimately be restored to normal and complete permanent relief of the asthma may be expected in this case."

Treatment of this boy's case was begun in November, 1926, and the subsequent history was almost exactly as outlined in the prognosis. He was free from bronchospasm in about six weeks, so that the epinephrin, which had been necessary at frequent intervals for several years, was entirely omitted and was never again found necessary. He remained in Chicago and attended school during the entire winter of 1926-27 and, with the coming of spring, was able to join other boys in all the normal activities of a Boy Scout encampment.

During the summer vacation of 1927, a resection of the nasal septum was performed, which established normal nasal space and which was the only surgical procedure ever employed in this case. He has remained at home in central Wisconsin during three successive winters, in a normal state of health, with no suggestion of bronchospasm. Doctor Merrill has given occasional treatment for head colds, as needed, but during the past year these have been entirely dispensed with.

Case 3: Boy, aged six, referred on January 13, 1928, by Doctor E. D. Levi-sohn, of Chicago, who had known him since birth.

Following an approximately normal infancy, the child had begun to have eczema, followed by mild attacks of bronchospasm, during his third year. No specific cause could be discovered, but the attacks were quite definitely associated with digestive disturbances, which were observed to follow the eating of certain foods, notably eggs, milk and excessive sweets.

On two occasions the child had been subjected to exhaustive study in one of Chicago's finest hospitals for children. The following notes are from the records kindly furnished by the hospital:

"Physical examination: Head, negative; neck, bilateral adenitis; thorax, barrel-shaped; lungs, markedly hyper-resonant throughout; breath sounds, asthmatic, with chest full of squeaks and groans; respiration, labored; heart sounds of good quality; no murmurs elicited; abdomen negative."

Diagnosis—Bronchial Asthma.

Patient was tested and found positive to the following protein extracts: Egg (all proteins), milk, chicken, ragweed, pork, corn, cereal; and to the following bacterial proteins: pneumococcus, type 3, strep. hemolyticus and micrococcus catarrhalis.

X-ray report: Lung shadows increased in all lobes of right side and in upper lobe of left side. Accessory sinuses: No radiographic evidence of pathologic changes in the accessory sinuses."

Treatment based on these findings was given, without result, and the asthma increased in severity so that, in January, 1928, more than one year had passed without a single day free from bronchospasm. He had shown no increase in weight for eighteen months.

The general examination of this patient was made for me by Doctor Ralph Kuhns, of Chicago, and all treatment, other than rhinologic was under his direction: Following is a copy of report made to Doctor Levisohn, based on our combined study of the case.

Dr. E. D. Levisohn, January 23, 1928
Chicago, Ill.

Dear Doctor Levisohn:

We have completed our examination of the boy, E. D., and the findings are as follows:

While this is an unusually severe case of bronchial asthma, which has been subjected to practically all customary methods of treatment without result, it is by no means so hopeless as this might lead you to believe.

The dominant etiologic factor is a chronic and severe bilateral ethmoiditis. There is considerable hypertrophied adenoid tissue in the nasopharynx, which may later require operative removal, but this should not be decided until we see how much it will reduce from treatment of the ethmoid infection. This is not said in criticism of the previous operation, because in the presence of ethmoid infection, even a well-made operation may have this result.

The treatment of the nasal infection will be non-surgical, at least for a time, and it is probable that no radical surgery will ever be required. There is a septal deformity which probably will require correction when he has reached the proper age.

The extra-nasal factors reported to me by Doctor Ralph Kuhns are as follows: Marked thoracic deformity and emphysema, due to the prolonged bronchospasm.

Rales and wheezes in the chest, due to the same condition.

Blood examination shows anemia, eosinophilia (7%) and leucocytosis (12,150).

Urinalysis shows high specific gravity, relative excess of phosphates, carbohydrate intolerance and high acidity, suggesting infection.

For your information we have obtained complete records of the examinations made at the children's hospital, which are of no material assistance, because the essential lesion has been entirely overlooked.

Prognosis: It is my judgment that the treatment for this boy should begin with an effort to remove the nasal infection. The accomplishment of this alone will, I believe, produce an improvement in the following ways:

1.—Lessening of infection, which will be shown by improvement in the blood picture.

2.—Disappearance of the carbohydrate intolerance, as shown by urinalysis, and by return of normal carbohydrate metabolism.

3.—Improvement of gastrointestinal function.

4.—Diminution in frequency and severity of the asthmatic attacks. Emphysema and thoracic deformity, which has been increasing, will diminish as bronchospasm disappears.

Improvement in general physical condition and gain in weight will naturally result from the above mentioned changes.

I have asked the mother to bring the boy to see you within the next few days, so that you may have a complete knowledge of his present condition.

I would like you to see him occasionally, in order that you may check his progress.

With kind regards,

Sincerely yours,
(Signed) Burton Haseltine.

Treatment was carried out according to above plan and, at the end of six weeks, the child was sleeping through each night without medication and without bronchospasm; the leukocyte count had dropped to 8,600 and the eosinophile count to normal. Diet restrictions were removed, except that he was not given eggs, veal nor pork.

At the end of six months all diet restrictions had been removed, he had gained six pounds in weight and was taking part in outdoor games, in a normal manner. There was a marked diminution of the chest deformity.

In January, 1930, during a severe "head cold," slight wheezing was observed, which promptly subsided with proper nasal treatment, without the use of epinephrin. The nasal infection is not one that can be completely eradicated until after puberty, but it is kept well under control by treatment at lengthening intervals, and no radical surgery should ever be necessary in this case.

For purposes of record, I asked Doctor Kuhns to re-examine this boy on April 26th, 1930, which he kindly did and following is his report:

April 26, 1930

Dear Doctor Haseltine:

Regarding the boy E. D., beg to submit to you my report of his condition at present:

This boy is very much improved since I first examined him two years ago. He has gained 13 pounds in weight and two inches in height. His chest deformity and emphysema are remarkably improved; his asthmatic attacks have ceased, and he is sleeping normally at night.

The blood and urine findings are normal.

Sincerely,

(Signed) Ralph H. Kuhns.

The report of this case is not made as final, but as a report of progress. The further improvement of this patient to

complete normality, under proper care, can be predicted with the same assurance with which the first prognosis was made. The case is typical, as illustrating the progressive invalidism and deformity of the asthmatic child, as usually managed, promptly changed by correct treatment to a course of uninterrupted improvement. The restoration of such a patient to normal is not a matter of weeks or months but of years. However, they are years of gratifying contrasts to the years of grief that have preceded them.

SEMINAR

(Continued from page 450.)

At the end of three weeks there was a sudden return of all the former symptoms, with a leukocyte count of 23,000. An operation was then performed, when we found a fair-sized abscess, with a necrotic appendix and a fecalith about the size of a large bean in the abscess cavity. The abscess was drained, after removing the appendix. There were many adhesions throughout the entire abdomen.

The patient did well for about ten days, when he developed an obstruction, with fecal vomiting. The wound was

again opened and a tube inserted into the bowel for drainage.

The boy left the hospital on Nov. 19 in fairly good condition, although the wound was still draining.

For the sake of brevity, I have omitted details of treatment, such as intravenous injections of dextrose, saline solution, etc.

Requirement: Discussion as to the relative merits of expectant treatment, as compared to operation, in children with a ruptured appendix.

BURTON HASELTINE, M.D., F.A.C.S., Chicago, is a fellow of the A.M.A. and of the American College of Otolaryngology and Rhinology and a member of all the constituent local and state organizations, and also of the Medical Round Table of Chicago and the American Medical Editors' and Authors' Association. He is a graduate of Hahnemann Medical College, Chicago, in which school he was professor of otology and rhinology for some years. He gave able service in his specialty, during the War, at Camp Grant and Fort Sheridan, Ill. After seven years as attending otolaryngologist at Cook County Hospital, he is now on the consulting staff of that institution, as well as being attending otologist and rhinologist at the Henrotin Memorial and American Hospitals. For many years, Dr. Haseltine has devoted especial study to asthma and has contributed freely to the literature of this subject, along rather revolutionary lines. His extramedical activities include membership in the Chicago Athletic Association, the Opera Club and the Chicago Yacht Club (he sails in the classic Mackinac race every year). He is also a Bookfellow and two volumes of his poems have been published.

CLINICAL NOTES AND PRACTICAL SUGGESTIONS

The Arrangement and Equipment of a General Practitioner's Office*

THE arrangement and equipment of a general practitioner's office depend on many factors. The most important of these are:

1.—The physician.

A.—The personality of the individual doctor determines largely how he will arrange his office and equipment. There are successful doctors with every conceivable kind of office layout. Some are meticulous and pay a great deal of attention to details. Others, just as successful, have very untidy offices, haphazardly laid out. Still others leave their offices to the whims of their nurse, secretary or wife.

B.—The experience of the physician will also determine the type and quantity of equipment and the arrangement of his office. As his practice grows and changes with the years, so will the character of his apparatus and layout be changed, to accommodate his growing practice. New instruments and apparatus of different make and quality will be fitted into new cabinets and re-arranged rooms.

C.—The capital at the disposal of the doctor is important. You cannot fit up a "swell" office on a pauper's income. Nor is it wise to borrow heavily to put up a front. The cost of upkeep should be well within the physician's financial ability to maintain, allowing for illness, hard times, unusual or unexpected expenses and slow-paying patients.



A Corner of the Waiting Room

2.—The patient.

The type and character of one's practice also determine to a great extent the arrangement and equipment of the office. A large "poor" practice necessitates a different arrangement than a small select one. An office handling many industrial or compensation cases must be arranged for speed and efficiency. The office catering to a rich clientele must be laid out with an eye for the comfort and convenience of the patient.

3.—The location.

An office in a high-class residential district must be differently designed from one in a rural community or in an industrial center. The refinement, elegance and expense of the office in a Park Avenue apartment house would be out of place in a Pittsburgh steel district or a village crossroads.

My own office arrangement and equipment is the result of ten years of practice

*This office arrangement was awarded a prize of \$100 in a contest conducted by Frank S. Betz and Co., in December, 1929.—Ed.

in a better-than-average residential district in a large city.

I have a corner apartment in a large, multi-family house situated on a well-known parkway with easy access to several transportation lines. In business parlance, my location has good advertising value.

I always bear in mind that the patient should go through the successive steps of a complete examination with as little effort as possible, to him and to the doctor. The seating arrangement and location of tables and instrument cabinets should be so designed as to permit a minimum of shifting about and going from room to room.

My patient enters a large waiting room, 13x19 feet; very sunny during my morning office hours and well-lighted at night. This room is made cheery by "warm"-colored Chinese rugs, comfortable furniture, and colored lamp shades. Magazines and books are of a non-professional nature.

He then enters my office and examining room, also 13x19 feet. The patient sits by my desk in a good light. After I take the history and listen to his or her tale of woe, the examination or treatment is conducted with as little hustle-bustle and as few retraced steps as possible.

He is weighed and measured. He then sits at the work table, placed between two windows and well lighted at night by adjustable lights. Supplies and instruments are grouped about me so that they are within arm's reach. Here I can examine or treat the eye, ear, nose and throat. A blood-pressure apparatus is at the left of the table, at the patient's left arm. Outlets for electrically-lighted or operated instruments are at the right of the table. A well-equipped instrument and accessories cabinet is at my right, and I can reach any part of it when I turn about on my swivel chair.

The patient has room to stand up for chest and abdominal examinations or cardiac exercise tests; or he may sit on the revolving stool for a detailed lung or heart examination.

The examining table is one step to the left, its foot toward the window, so as to permit the light to bring out a Litten's sign or shadows on the abdominal wall, and for convenience in gynecologic examinations. The table can be readily rolled toward the center of the room, or special apparatus—diathermy machine or infra-red lamp—can be moved to the table.



Examining and Treatment Room

The room can be subdivided by extension screens, if more than one patient needs to be treated at the same time. The examination or treatment over, the patient may dress behind the adjustable screen while I examine the urine or blood smear, or write the prescription. He then returns to my desk for consultation, instruction or appointment.

My class of patients do not appreciate being relegated to a nurse. They come to the Doctor and they want the Doctor to attend to them; that's what they pay for.

This arrangement has been found workable and satisfactory. I can attend to a surprisingly large number of patients with no retracing of steps and a minimum of effort.

MORRIS BROOKS, M.D.

Brooklyn, N. Y.

Water Plants Kill "Wigglers"

IF A BUG bites a plant, that's old stuff; but if a plant bites a bug, that's news. Good news, too, for the bug that gets bitten is the larva, or "wiggler" of the pestiferous mosquito.

In a report to *The American Naturalist*, Prof. Robert Matheson, of Cornell University, tells of his investigations on various plants that are enemies of breeding mosquitoes, including one species of water-weed that actually swallows and digests their young. This is the bladderwort, or

Utricularia. On its underwater stems there are thousands of tiny, hollow, green globes, each opening at one end in a little mouth, fringed with hair-like appendages.

These globes are under internal tension, and when a "wiggler" brushes against one of the hairs, the mouth suddenly flies open and sucks the luckless insect in. Within the bladder it quickly dies and is digested as though it were in an animal's stomach.

Prof. Matheson has also found that other genera of water plants, particularly the attractive members of the *Chara* family, in some way kill off most of the mosquito larvae that may find their way into the ponds they inhabit. Some of them even seem to discourage the female mosquito from laying her eggs at all.—*Victor News*, May 1, 1930.

The Menace of the Drinking Cup

THE history of our earlier explorers reminds us of the fact that the Indians recognized the danger of using another's drinking vessel. They had their own drinking cups and would not use a cup other than their own. In drinking they held the cup above the head and poured the liquid into the mouth without touching their lips. Strangers were not allowed to use their cup, if he had none of his own, the liquid being poured into his cupped hands. They thoroughly appreciated the association of hygiene of the body and long life.

Even the primitive people knew better then, and we know better now; but the fact remains that the careless cleansing and sterilization of drinking cups, dishes and eating utensils, are potential sources of danger, by germs adhering to them and being transferred from one person to another. It is not my purpose to frighten and I am aware of the fact that, under certain circumstances, nothing untoward happens; but it is worth while to be careful, that the exceptional case may be spared.

Scientific medicine, today, is largely based upon the importance of bacteria, the recognition of which began when Pasteur first looked into the wonders of the microscopic world and gave us the basis of our fear of the drinking cup.

The statement is made, "The common drinking cup, like the old oaken bucket, is a thing of the past," But, is it? Any cup that is not properly cleansed and steril-

ized is as dangerous as the old common drinking cup. Because a glass is washed, or even "sparkles" and looks clean, it does not necessarily follow that it is not harboring the organisms of disease. The old adage, "What you don't see or don't know won't hurt you," is untrue. It has been definitely shown that influenza is very frequently transmitted by improperly cared for dishes; likewise the germs of diphtheria, pneumonia, tuberculosis, sore throat and others. These are not my personal feelings in the matter, but are based upon scientific research, the result of a great deal of effort on the part of individuals, research foundations, scientific groups, etc., nationally and internationally known.

A vast amount of propaganda concerning this matter is going on in this country, as well as abroad. Recently I read an article by Dr. F. A. Förstner, of Germany, who refers to the deplorable conditions in small-town and little restaurants, in using unchanged water for dish-washing. He states that they make a great show in cleansing the dishes before the people, and yet they are filthy, and recommends a machine for hygienic cleansing.

Major John W. Meehan, in writing of "The cup that Kills" says: "With the advent of hot weather, humanity will seek relief from thirst by frequent draughts of cool liquids, and our problem is to protect man from coming in contact with the mouth secretions of his fellow man, and here we meet with the 'the cup that kills.'" A person may be ever so fastidious with his eating and the cleanliness of his tableware, but on a hot day he will drink from any glass, tin can, or cup that is convenient, regardless of whose lips have soiled it before. The average man would be horrified if required to use a tooth brush belonging to his closest friend, and yet he is frequently exposing himself to another man's mouth secretions, just the same as if he were using another man's tooth brush.

There will be, during the summer, the vacationist, fishing and roaming the "wilds"; picknickers along the babbling brook (which is usually a glorified sewer); the autoist, eager to drink from the old can hanging on the farmer's pump, or from the glass which the enterprising boy at the "pop stand" scarcely empties between customers. No amount of regula-

tion by law will affect this situation, and the individual's own precaution must be depended upon to eliminate this menace to public health.

Most states and cities have enacted laws and adopted regulations regarding the use of drinking cups in public or semi-public places. Most of them require that the dishes and utensils, after being thoroughly washed, must be exposed to live steam, boiling water or hot air at certain definite temperatures, for at least five minutes. Some of them prefer the use of sterile dishes, cups and spoons made of paper, wood or other suitable material, handled in a sanitary manner and used for one service only. Many will accept sterilization with a chlorine solution, when properly controlled. The various health departments are eager to aid in any way to bring about better conditions, and would appreciate your bringing unsatisfactory conditions to their attention. The present situation is very much improved, as compared with that of a few years ago, and most of the credit is due to the efforts of the public health officials.

The cleansing and sterilizing may be done by hand or machine. Statistics show that machine-washed dishes, under good supervision, are sterilized effectively. The hand washing method was disappointing, in that the proper temperature to kill the germs could not be used. Chlorine has been found to be very practical, when properly controlled and changed frequently enough. A complete individual paper service is probably the best solution for the small institution and where the more elaborate and expensive machines are not feasible. In the main, the larger institutions are compelled to go to a great deal of expense in installing dish washing apparatus.

Why are we so indifferent to the soda fountain, pop stand, etc., despite the fact that the United States Public Health Service, from forty-five radio stations, has broadcast the warning against the use of the community glass that has been "washed" and yet not freed from germs? The use of individual paper cups has been made compulsory, by the Government, on all railroad trains. Most institutions would be eager to consider your demands for absolute cleanliness, especially if your patronage and good will are at stake.

That this subject is timely is exemplified by the fact that *Hygeia*, published by

the American Medical Association, in a recent poster contest for high school pupils of the United States and Canada, awarded the first prize to a girl in Cleveland, Ohio, who portrayed a school-girl drinking out of a sanitary fountain.

One will be surprised what one will see if one is observing. Ramona's Marriage Place, a "wishing well," at San Diego, California, is a historic spot where newlyweds drink of the water and make a wish, *after having thrown money into the well* (the wish is, of course, supposed to come true). One may purchase a sanitary cup for a penny and use it to dip out this filthy, contaminated water. Think it over!

Another recent personal experience might be of interest. I was a passenger on one of the important railroads out of Chicago. In the observation car, refreshments were being served. A dozen or more sparkling glasses were in use; shortly they were all used and the porter, eager to give us good service, brought in a half-pail of water and proceeded to wash the glasses in the pail. I found he was using plain water, *as he always had done*. He thought I was just fussy; nevertheless, I had the condition remedied at once and we had individual paper cups thereafter. I could quote instances of this sort at length.

In closing, let me say that a tremendous amount of good has already been accomplished and, if we hope to abolish this menace, we should use every effort to bring about reform as rapidly as possible, by every legitimate means. Health is the most precious possession we have. The fact that one is well today is no assurance that one may not be the victim tomorrow. My aim is to call attention to the individual responsibility and to awaken the public consciousness to this danger.

FREDERICK B. BALMER, M.D.
Chicago, Ill.

Boiled Milk and Vitamin C

ALUMINUM cooking utensils have no selective destructive action on the antiscorbutic vitamin of milk.

There has been a growing tendency to boil milk whenever it is to be used in supplemental feedings, or whenever a supply is of doubtful origin. In thus safeguarding the health of children against microorganisms and in providing for better assimilation of the proteins, mothers may

be assured that when they use aluminum utensils for the preparation of milk they are not depriving this invaluable foodstuff of its antiscorbutic properties.

In the Mellon Institute experiments, milk was boiled lightly for five minutes, in aluminum or glass containers. Some destruction of vitamin C occurred in each case, as a result of the boiling, but the metallic utensils exerted no greater action than did those of glass.

Another interesting observation is that winter milk, from ensilage-fed cows, is practically as potent in vitamin C as is the best summer milk from cows on pasturage.

MELLON INSTITUTE OF INDUSTRIAL
RESEARCH

Pittsburgh, Pa.

Cancer of the Breast*

THE STUDIES of the records which have accumulated in the forty years of the life of the surgical clinic at the Johns Hopkins University, in the Surgical-Pathological Laboratory, give the best evidence that the surgical treatment, as conceived and executed by Professor Halsted in 1890 and perfected in 1895, is the best treatment for cancer of the breast today.

This operation, which is not dangerous and no more mutilating than the removal of the breast, offers more for the immediate mental and physical comfort of the patient and for the permanent cure, if the "lump" is malignant, than any other treatment known or practiced today. There is no objection, in late cases, to preoperative x-ray treatment, nor, in all cases, to post-operative x-ray treatment, or irradiation by radium. But the best results are obtained only by the best surgery, and this was established by Halsted in 1895 and is confirmed by the most experienced operators in the world today.

Even more encouraging is the fact that the investigation of these records shows that the education of women has increased the number of cured cases of cancer; from less than 10 percent up to 1900, to more than 50 percent, since 1920.

These figures should take the fear of cancer of the breast from every woman. The enlightened woman today—the one

who has received correct information about the care of her breast and who seeks an examination by her family physician, selected while she is well, and seeks this examination without delay—runs less than 17 percent chances of a cancerous lump in the breast; while the uninformed women, previous to 1900, ran 80 percent chances of a cancer of the breast, and only 10 percent chances of a cure.

These enlightened women, who report at once and whose chance of cancer is less than 17 percent, if properly treated, should expect almost 70 percent chances of a cure. The modern, informed woman, today, when she observes pain in the breast, or a "lump," with or without pain, or a discharge from one or both nipples, or an irritation of the nipple, or anything unusual about the breast, that she has not seen or felt before, will, if examined by a competent member of the medical profession, have the best chance of a cure from cancer.

After such an examination, on women who seek it the moment they are warned, the probability of a condition of the breast which is not cancer and requires no operative treatment, will be almost 70 percent. Of the remaining 30 or 35 percent, who must be operated upon for the exposure of the definite "lump," in more than one-half the "lump," when studied with the microscope, will be found to be benign and the breast will not be removed. In some instances the "lump" removed will be of the precancerous type, and this woman will not only be protected from cancer, but protected without the loss of her breast. In the remaining 50 percent of those operated upon, the "lump" will be of a type that demands the removal of the breast for the best protection against death from cancer, and this woman should have, in the majority of instances, 70 percent chances of a cure. The complete protection of women against cancer of the breast rests upon research in the experimental medical laboratories of the world.

To give the women of this country the correct information necessary for their protection, and to standardize the hospitals of this country so that they can render the most efficient diagnostic, operative, and radiation treatment, there must be a cancer survey of a number of the best hospitals. The Harris bill, before the Senate today, if passed, will authorize this survey; and the

*Abstract of a paper read before the Kansas State Medical Society at its meeting in Topeka, Wednesday, May 7th, 1930.

Ransdell bill, to create a larger and most efficient federal public health service, which has passed the Senate, should be passed by the House.

JOSEPH COLT BLOODGOOD, M.D.
Baltimore, Md.

Lymphosarcoma*

LYMPHOID tumors offer the most impressive field for radiation therapy.

It is now generally recognized that lymphosarcoma belongs exclusively to the radiologist, since the tumors yield rapidly to moderate dosage, and many localized growths never recur.

It is highly important to avoid incision for diagnosis, since these tissues are very susceptible to infection and the scars break down under radiation.

A discrete, movable node may safely be excised.

In generalized systemic lesions, the prognosis still remains unfavorable, owing to the wide extent of the disease, and there appear to be few cures of ulcerating lymphosarcoma of the intestine.

Very striking initial results and a few apparently permanent regressions are observed with mediastinal lymphosarcomas, of which belong with the thymic tumors.

JAMES EWING, M.D.
New York City.

Therapeutic Shock

FROM the standpoint of observation, reason and experience, one would naturally be led to conclude that shock has much to do with the curative processes that are in vogue. The small shock, frequently repeated and properly given, may cause the curative process of nature to become active and thus remove disease; while a large or a misapplied shock may prove injurious—yes, even may destroy. Perhaps thought is a shock—the connecting link between the spiritual and material or physical body.

Great shocks have cured many cases, where they have not proved destructive. We would not dare use them in practice, still, they can teach us that there is a way, if we can discover it, by which such a means could be used as a cure.

A lady of Florida was a confirmed cripple,

following an injury. The hurricane that visited the coast of that State demolished her home. She was sitting in a chair when the storm struck the house. The shock of the onslaught prompted her to spring from the chair and run from the house. Since that time she has been able to walk as well as she did before she became a cripple.

Those who have the analytical mind should give this shock theory consideration. The average physician must be led by some organization; but the earnest and sincere physician, who does not let prejudice rule him, can frequently see the light of progress and come to conclusions for himself

BROSE HORNE, M.D.
Gas City, Ind.

Metaphen in Furunculosis of the External Ear

I FIND that furunculosis of the external auditory canal yields remarkably well to applications of full-strength (1:500) Metaphen solution. This is introduced into the swollen canal on a small pledget of cotton, thoroughly saturated with the solution. The patient waits one hour, when the pack is removed and a fresh one introduced, after which he goes home, with instructions to remove the second pack in an hour or two.

It is well to supplement this treatment with a 1:1,000 solution of Metaphen, for home use, which the patient is instructed to instil into the ear several times a day and allow it to remain for 15 or 20 minutes.

EDWARD PODOLSKY, M.D.
Brooklyn, N. Y.

The Economics of Hospital Care*

AT THE beginning of every case of a serious illness, there should be a frank discussion between the physician and the patient or his family, regarding financial matters. It is, of course, easier for the medical attendant to send the patient to a hospital; but this may work a serious hardship upon the family, and it is quite possible that the doctor may be able to do everything that needs to be done, without moving the sick man from his home.

*Abstract (by G. B. L.) of a lecture before the Annual Conference on Medical Education and Hospitals, Feb. 18, 1930.

*From *Bul. Simpson Radium Clin.*, Jan., 1930.

When it is necessary that a patient enter a hospital, it is often the case that, if he and his family would swallow their false pride, he could be cared for as well or better in a ward, with floor nursing, than he could in a private room with a special nurse. Let us remember that officious fussing is not service.

The temperament of the patient often determines the type of hospital accommodations which he needs. Highly sensitive persons may require the privacy of a separate room.

Hospitals are too highly standardized and the charges are too inflexible for the best interests of patients. Laboratory examinations could profitably be limited to the needs of the case in hand, instead of following a routine list, and the charges might well be made to fit the patient, instead of being adjusted to the accommodations of his occupancy.

Too many unnecessary and expensive consultations with specialists are frequently called for. In cases which really need such expert advice, the group clinic is in a position to render high-class service at a reasonable fee.

Let us not forget that our patients are not merely cases, but individual human beings, in all regards—body, mind, emotions and financial status.

JAMES B. HERRICK, M.D.,
Prof. of Med., Rush Med. Coll.
Chicago, Ill.

Temporary Sterilization of the Female*

THE method described by Gräfenberg, for use in cases where the medical attendant has decided that temporary sterilization is indicated, is simple and efficient.

A flexible ring of coiled silver wire (diameter 2 to 3 cm.) is introduced into the uterine cavity so that it lies wholly above the internal os. It is usually removed, and if necessary replaced, after a year. After its removal the woman is just as liable to conceive as if the ring had never been used. This apparatus, which is really intrauterine, is not to be confused with the many so-called intrauterine (really intracervical) pessaries, which keep open a path from the septic vagina to the non-septic uterus, and are therefore dangerous.

*From *Brit. M.J.*, Dec. 14, 1929.

Gräfenberg has inserted the ring in 1,100 cases during the last ten years, and has watched many of the patients regularly during the whole of that time, without seeing a case of failure. His experience is corroborated by many other German and Russian investigators. My own knowledge is limited to 100 cases, but so far I have seen no reason to doubt that this method gives complete immunity against impregnation.

The insertion and removal of the ring calls for no greater skill than does the simple operation of curettage. An anesthetic is seldom necessary, for very little dilatation usually suffices for the insertion of the ring, which is compressed in a special introducing instrument. The procedure appears to be harmless, in the absence of genital infection, provided it is carried out with strict aseptic precautions. The absence of harmful irritative effects is apparently due to the fact that the uterine mucosa (unlike other mucous membranes) is cast off at each menstrual period. The value of the method lies in the fact that its reliability depends on the skill of the medical attendant, and not (as in most other contraceptives) on the skill or care of the patient.

NORMAN HAIRE, M.D.
London, W.1, Eng.

Epidermophytosis

TWENTY years ago, ringworm was spoken as the *opprobrium dermatologicum*, and no mention was made of the infection of the feet, the condition that is so familiar today. The technical term for foot infection is *epidermophytosis*, and it differs from *trichophytosis* in that it never invades the hair or hair follicles.

Epidermophytosis was the eczematoid eruption with well-defined edges, found between the toes, which Hebra described and named *Eczema marginatum*.

It is caused by a mycelium or fungus, which can be cultured in the laboratory. This fungus is capable of infecting the flat skin surface at almost any point, but the most interesting, at the present time, owing to its wide dissemination, is the infection of the feet. This infection might easily be diagnosed as pompholyx or eczema and treated accordingly, of course without benefit.

Norman Walker, of Edinburgh, makes no mention of the condition in 1908, but

Haldan Davis, of London, describes the lesions as they are found today in his book published in 1913. Davis lays stress on the differential diagnosis from eczema, and states that, in ringworm, the edges of the patches are always sharply defined or outlined, and there are no outlying vesicles such as are to be found in true eczema. He thus destroys the popular illusion that medical knowledge of ringworm of the hands and feet is comparatively recent.

Other diagnoses of this affection have been psoriasis, lichen planus, or simply intertrigo.

The diagnosis is confirmed by taking scrapings of the eruption, treating this specimen with a solution of potassium hydrate, and examining it under the microscope for the spores.

The disease usually affects the interdigital spaces, sometimes the soles of the feet, and may extend from between the toes in a curve on the dorsum of the foot. In a recent case, the whole of the soles of the feet were involved, and the patient had been using eczema remedies continuously for three years.

Infection is distributed through the medium of contaminated surfaces, and particularly by the bath mat. The usual history is that the patients attend public or private bathing or swimming pools.

As the fungus, in scales from the skin, remains viable for more than a year, this explains how new infections and reinfections are so easily acquired, and this danger of recontamination must be explained to the patient at the time of treatment. Since the recognition of this malady, the remedy *par excellence* has been Whitfield's ointment.

It might be of interest to mention that Whitfield's ointment was originated in the skin department of the Royal Northern Hospital, London, where, the successor of Dr. Whitfield, Dr. H. S. Semon, informed me that the benzoic acid in the preparation is an unnecessary ingredient.

The formula at the Royal Northern Hospital is:

Acidi Benzoici gr. xx	(1.3 Gm.)
Acidi Salicylici gr. xx	(1.3 Gm.)
Olei Coccois ʒi	(8.0 Gm.)
Paraffini Mollis ad ʒi	(32.00 Gm.)

At the St. John's Hospital for the Skin, London, the formula is slightly different:

Acidi Benzoici gr. xxv	(1.65 Gm.)
Acidi Salicylici gr. xv	(1.00 Gm.)
Paraffini Mollis ʒii	(8.00 Gm.)
Oleum Coccois ad ʒi	(32.00 Gm.)

An obstinate and resistant intertriginous dermatitis should always arouse suspicion of epidermophytosis.

R. STEWART MACARTHUR, M.D., C.M.
Los Angeles, Cal.

Appendicitis Operations in the Obese

FOR the obese, some reduction of weight should be attained before operations of election.

When laparotomy is a necessity, the incision must be so placed that the appendix, if its location can be diagnosticated, shall be accessible through it, for the great globe of the obese abdomen can literally roll to the right or left of the spine, so that the skin incision may, in that way, be so misplaced that it leads the operator astray in his search for the appendix. The great mass of fat must be pushed over the spine to a suitable relationship.

The incision must be liberal, and large, broad and well-chosen retractors must be strongly and intelligently manned to secure adequate views. Sponging must be managed with skill, until the appendix is found. The organ must be removed with, if possible, more care than usual, because of the slight resistance to infection offered by the fat, weakly-nourished and enervated tissues, in which infection easily spreads.

It is especially in the obese that we often find it very difficult, during operation, to lift the appendix and its related structures out of the abdomen; for, not only does the fat make the abdominal wall very thick, but it often distends and stretches the mesenterium, distorting all the relations of the movable intra-abdominal structures.

When this condition is encountered, it is often necessary to operate *in situ*, without lifting the cecum out of the abdomen. The retraction is carefully studied by the operator and must be skilfully maintained by an assistant who has at least a little experience, so that he can anticipate the wishes of the operator. Sometimes one can best tie off and sever the mesenterium; then loosely introduce a peritoneal purse-string suture around the appendix base; next take off the appendix by the Halstead technic; and, last, close over the stump by tying the purse-string suture.

The Halstead three-forceps technic is invaluable—not, indeed, surpassed by any other. Over the appendix, near its base, a straight, six-inch forceps is clamped crushingly; next, distally, another forceps is placed in closest contact with the first; a third forceps is clamped tightly on the proximal side of the first forceps; now the first forceps is removed and the flattened appendix is amputated. There is no need to disinfect this stump, which is whipped over with a fine suture, carried by a straight sewing needle. The proximal forceps is removed and the previously-applied purse-string suture is drawn together and tightened, with care that the infected stump is not contacted by anything that must heal into the abdomen under aseptic conditions. I prefer to close the superficial fascia with a separate layer of light catgut sutures, passed through the fat. Hemorrhage into the loose fat almost always makes serious trouble through delayed union, often with suppuration that may result in hernia.

When the appendix cannot be lifted out of the abdomen for removal, because of its adherence or that of the cecum to fixed structures about it, the artifice of dividing it at its base before removing it is strongly to be urged. The great danger of spreading infection from the severed appendix is emphasized here, and unusual precautions should be taken to avoid it.

First, the appendix itself should be gently separated from neighboring structures, as far as may be done without undue damage to the appendix, the bowel or other tissues. Next, the deep cavity of the wound is so packed with moist gauze pads that infectious matter, issuing from the severed appendix, may be caught on them and not be

brought into contact with the clean peritoneum.

If our hopes in regard to hexylresorcinol, fanned into flame by its originators and manufacturers, are not dashed to destruction by further experience, it would seem best to moisten the surfaces of the gauze-pads with the diluted antiseptic.

The base of the appendix is then grasped in the jaws of three straight artery forceps, as advised by Halstead, and the pads finally carefully tucked in about them, leaving only the handles exposed. Now the middle forceps is unclamped and removed, and the appendix is cut through with a sharp knife, close to the distal forceps on its proximal side, thus leaving a crushed, flattened stump about $\frac{1}{4}$ inch long.

The appendix, with the aid of the forceps which clamps it, is rolled a little away from its base, leaving a slight free space. A small pad of gauze, slightly moistened with hexylresorcinol, may be carefully applied to the stump to protect the peritoneum. Usually one uses a thin, curved needle, with which to pass the necessary purse-string suture through the peritoneum in a circle about the stump. Then, the needle and the thread not touching anything but the stump, the relic of the appendix is surrounded, buried by tying the suture over it, and the appendix is lifted and clipped off from its mesenteriolum, any vessels encountered being carefully ligated, perhaps with suture ligatures, to avoid consecutive hemorrhage.

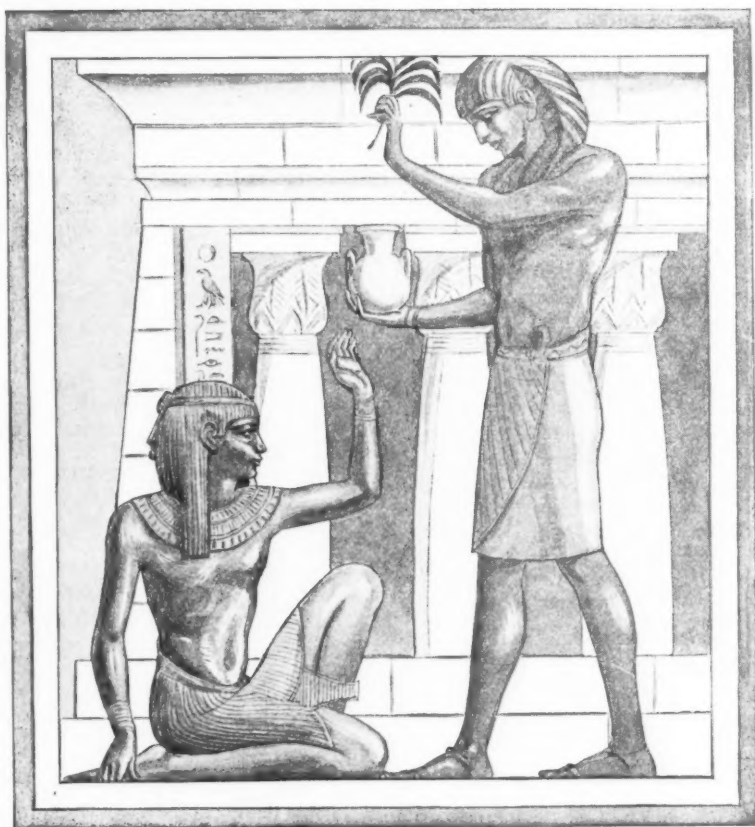
The results obtained after operations upon the obese cannot be expected to be so satisfactory as those in people of normal physique.

WELLER VAN HOOK, M.D.
Chicago, Ill.

CAN YOU LOAF?

I walk sometimes in graveyards. I say to myself, "Here lie many hard-working men. All were indispensable. Yet the world has dispensed with them, and somehow it carries on. Let me, therefore, not take myself too seriously. Let me read a little, and play somewhat, and laugh whenever possible. Let me get myself ready for the Kingdom of Heaven into which only those enter who have become as little children.".....Little children can be happy part of the time doing nothing at all.—BRUCE BARTON.

THE LEISURE HOUR



The Doctor in Ancient Egypt

EGYPT was a highly civilized country six or seven thousand years ago, when this Land, of which we are inclined to boast, was not even conceived in the womb of the future.

Medicine was a highly respected profession, in those old days, and the earliest historical physician, Imhotep, was an Egyptian.

The "Authorities," too, were as keen on maintaining medical orthodoxy as they are today, and their style was less cramped. If a patient died under any treatment not laid down in the Hermetic Books of Thoth, the physician was liable to the death penalty.

The Ebers Papyrus (a page of which is shown here) is the second oldest medical



A Page or Section of the Ebers Papyrus.

book in existence* (The Edwin Smith Papyrus, also Egyptian, 1600 B.C., being the oldest), dating from 1550 years before Christ, and gives details for the use of over 700 different drugs, among them castor oil, opium, aloes, juniper berries, gentian and yeast.

Defunct Pedagogues

"Of the 130 members of the high school, only 50 made a perfect attendance record. No corpse of teachers can force an education on children who are permitted to go and come at their own sweet pleasure."—Editorial in *Fountain Inn* (S. C.) *Tribune*.

Typed in the Dark

Thr lifths jave fone ouy byt I mjst
Tjrn ouy onr mpre vt4se if I bjst.
I frrl fjr thr keus
Byt I mjss tyem sitj eqse
Abd qukt fjr thr nifts in disg7st.

Flowery Motoring Rules

In Japan, the land of flowers and of ceremonious courtesy, the following printed card is issued to English-speaking tourists, full of as much flowery language as even

the residents of this Oriental country could desire.

"At the rise of the hand of policeman, stop rapidly. Do not pass or otherwise disrespect him. When passenger of the foot hove in sight, tootle the horn. Trumpet melodiously at first. Then tottle with vigor and express by

word of mouth the warning, 'Hi, Hi.'

"Beware of the wandering horse that he shall not take fright. Go soothingly by.

"Give space to the festive dog that makes sport in the roadway. Avoid entanglement of the dog with your wheel spokes.

"Go soothingly on the grease-mud, as there lurk the skid demon. Press the brake of the foot as you roll around the corners to save the collapse and tie-up."—*Wall Street Journal*.

Pick Up

She came home with her hat on one side and her clothes all crushed-looking.

"Looks as though she's been knocked down by a motorist," said one neighbor sympathetically.

"Or picked up," said another thoughtfully.—*Bul. Chicago M. S.*

My Paw

Paw sez marryin' and golf playin' with most of the guys

Is purty nigh similar—you just notice how The worse a dub is, with good sense otherwise,

The more he seems certain that he'll be a wow

The next time he tries.

B. H.

*Both cuts were furnished by the courtesy of *The Doctor*.

Diagnostic Pointers

Undulant Fever Traced to Cow's Milk

A case of undulant fever, due to bovine *Brucella abortus* and apparently contracted from drinking cow's milk, was observed in a man aged 30 years. The agglutination test for the bacillus was positive and has continued so for 15 months. No other probable cause could be found except the drinking of the milk. The incidence of cattle infected with the *Brucella abortus* is extremely high.—DR. W. R. VIS, of New York, in *Ann. Intern. Med.*, Jan., 1930.

Gonorrhea of the Rectum

Gonorrhea of the anus and rectum is of frequent occurrence and is often overlooked by proctologists and urologists. It is much more frequent in women than in men. Auto-inoculation is the chief mode of infection. Stricture of the rectum is the most serious complication.—DR. HERBERT T. HAYNES, in *J.A.M.A.*, Dec. 14, 1929.

Paralysis after Spinal Anesthesia

If paralysis follows spinal anesthesia, look for a *spinal cord tumor*.—DR. JOHN S. LUNDY, Rochester, Minn.

Chronic Mastitis and Cancer

The "blue-domed" cysts of the breast (chronic, cystic mastitis) are essentially benign and very rarely eventuate in cancer.—DR. ARTHUR D. BEVAN, Chicago, Ill.

Lactation and Sucking

When a mother fails to secrete milk for her infant she is apt to lay the blame upon some error in her own diet, state of health or some other condition.

As a matter of fact, the breasts of practically all mothers will secrete milk if they are emptied regularly; that is, if the mother

has well-formed nipples and the baby can and will suck them vigorously.

Most cases of failure of the milk supply are due to the *child*, which, because of weakness, respiratory disease or nasal obstruction cannot suck properly; or, because of *nervous irritability* will not do so.—DR. H. C. CAMERON, London, in "The Nervous Child."

The Arrhythmias in General Practice

In considering the cardiographic and other instrumental methods of investigating the arrhythmias, it is seen that clinical observation is still the best method available and always will be, for we can actually see the effect in the patient.

The most elementary sign of cardiac insufficiency, such as edema, is beyond the scope of all the instruments of the cardiologist. Reliance on such instruments, to the neglect of clinical observation, degrades them from utility to futility.—DR. B. WILLIAMSON, London, Eng., in *Practitioner*, Dec., 1929.

Lung Consolidation or Fluid

In distinguishing between fluid in the chest and solidification of the lung, first find whether there is any displacement of organs; then test the resistance in tapping the chest with the finger.—DR. J. L. MORSE, in *New England J. Med.*, Aug. 22, 1929.

The Etiology of Tics

"Tics" have generally been accepted as of psychogenic origin, but recently there has been a tendency to regard them as organic diseases. On the basis of the study of three personal cases, it is believed that the tic is an infectious disease, in the same sense that chorea is an infectious disease, and that the commonest site of the infection is the nasal sinuses, especially the antrum. The overwhelming bulk of what are ordinarily

classed as "tics" are the result of a toxic encephalitis, due to absorption from an extracerebral focus of infection, and the adequate treatment in these cases depends on early recognition and proper handling of the infection.—DR. L. SELLING, Portland, Ore., in *Arch. Neurol. and Psychiat.*, Dec., 1929.

Surgical Emergencies

Every case of abdominal pain is not a surgical emergency. We must have some rule which will guide us and there is none so good as this: If, in a doubtful case, occurring in a previously healthy person, no improvement takes place in six hours, the case is surgical.—DR. H. W. CARSON, London, Eng., in *Practitioner*, London, Dec., 1929.

Errors in Diagnosis of Appendicitis

If the classical picture of generalized abdominal pain, which later localizes in the right lower quadrant, nausea, vomiting, rise in temperature and leukocytosis, is kept in mind and our cases judged in accord with this *chronologic sequence*, we will not be often called upon to explain what is apparently appendicitis, after appendectomy has been performed.—DR. F. S. LITTLEJOHN, Marshall, Tex., in *Tri-State M. J.*, Nov., 1929.

The Bacillus of Whooping Cough

Laboratory investigations, in which the Bordet-Gengou bacillus was isolated in 12 out of 21 cases of whooping cough, indicate that *B. pertussis* is found in a good percentage of cases and that this organism is distinguishable biologically from *B. influenzae*.—DRS. H. SUGARE and J. W. MCLEOD, in *Lancet*, Lond., July 27, 1929.

Determination of Blood Coagulation Time

A simple method of determining the approximate blood coagulation time is to receive several drops of blood (well-rounded drops, 4 to 5 mm. in diameter) on a clean slide and to draw a needle through the drops at one minute intervals. When shreds of fibrin cling to the needle and are dragged along with it, coagulation has

taken place, and the slide may be held in a vertical position without altering the shape of the drop. At room temperature this occurs in normal blood in from 6 to 8 minutes.

The *bleeding time*, which is the time required for a small cut to cease bleeding spontaneously, does not necessarily run parallel to the coagulation time. Normally it is one to three minutes, though it may be as long as eight.—*The Prescriber*, Dec., 1929.

Personality Changes in Tuberculosis

Different diseases effect specific changes in the personality of the patient. In advanced tuberculosis, one of the most marked characteristics, the great hopefulness of the patient—the *spes phthisica*—has been widely noted and is in marked contrast with the patient's physical condition.—DR. L. J. BRAGMAN, Syracuse, in *New York St. J. Med.*, Oct., 1929.

Uranalysis and the Toxic Basis of Asthma

Speaking of asthma, the urine study which shows increased acidity, increased reducing power and increased indican, also shows that, before the patient can be deemed clinically out of danger of relapses, these increases in urine findings must disappear. It follows that a recrudescence of the asthmatic paroxysm may be expected when the increases in urine findings, as above, reappear. Nocturnal polyuria, abnormal specific gravity of "rest" urine and of "tide" urine are also to be corrected.—DR. CLIFFORD MITCHELL, of Chicago, in *M. J. and Record*, Nov. 20, 1929.

Height and Weight

The figures in tables of weights and heights of children are average; they are not necessary normal for any child.—DR. J. L. MORSE, in *New England J. Med.*, Aug. 22, 1929.

Curable Tabetic Ataxia

Curable acute tabetic ataxia, primarily syphilitic in origin, is the expression of a genuine inflammatory meningo-radiculomyelitis, with a posterior location, and rep-

resents a very progressive inflammatory recurrence of tabes. The inflammatory lesions are the anatomic basis.

Treatment consists chiefly in specific medication by mercury and bismuth.—DR. R. MIGNOT, *Presse Méd.*, Paris, March 18, 1929.

Seasonal Hay-Fever not Due to Pollen

Not all cases of seasonal hay-fever are due to pollen. In *Ann. Intern. Med.*, Apr., 1930, Dr. S. M. Feinberg, of Chicago, reports 2 cases of seasonal hay-fever in which tests and subsequent therapeutic results showed them to be caused by orris root (face powder) and not by pollen. The seasonal nature of these cases is to be explained by the fact that the limit of tolerance to the orris root was exceeded only during the summer, when the use of face powder was excessive.

Skin Color

You cannot tell anything about the condition of the blood by the color of the skin. If the nails and lips are pink, you need not worry about the pale skin of a child.—DR. J. L. MORSE, in *New England J. Med.*, Aug. 22, 1929.

Hypersensitiveness as a Cause of Epileptiform Convulsions

There is some reason to believe, from observations reported in the literature, that certain obscure types of epileptiform convulsions may be due to hypersensitiveness. Two cases are reported, in young children, of epileptiform convulsions, alternating with asthmatic attacks. In these cases it is held that the epilepsy was due to hypersensitiveness.—DR. G. L. WALDBOTT, *De-
troit*, in *Archiv. Neurol. & Psychiat.*, Feb., 1930.

Vertigo

True vertigo is always due to over-stimulation or pathologic affection of the vestibular apparatus, either peripheral or central; it is

the only direct vestibular phenomenon not having the character of a reflex.

Being a highly subjective symptom, vertigo is of only limited clinical value, but gains the importance of an objective symptom by the coexistence of some of the reflex phenomena of vestibular irritation or destruction, such as nystagmus, falling reactions and past-pointing.

True or vestibular vertigo assumes two distinct forms: Turning dizziness, namely, the apparent rotation of the patient's surroundings or of his own body; and tactile dizziness which includes all the optical illusions and misinformations by the sense of touch as to the location of the patient's body or the external objects with which he is actually in touch.—DR. S. BAUMOEL, *Cleveland, in Ohio St. M. J.*, Jan., 1930.

Mastoiditis in Children

Regarding mastoid trouble in childhood, a good rule to follow is that any child, whose temperature keeps up more than 10 days and whose ear discharge continues, has trouble in the mastoid.—DR. J. L. MORSE, in *New England J. Med.*, Aug. 22, 1929.

Cooke's Allergic Postulates

Any substance suspected of causing allergic symptoms must fulfil certain criteria before it can be considered a serious factor in any particular case. These criteria, the postulates of Cooke, are as follows: (1) The substance must be one with which the patient comes in contact; (2) symptoms must invariably be induced when the patient is brought into contact with this substance.—DR. H. S. HATCH, Indianapolis, in *J. Indiana St. M. A.*, Feb., 1930.

The Endocrines and Sleep

There is a relationship between the phenomena of sleep and the endocrines. Persons suffering from myxedema, ovarian insufficiency and other endocrine dysfunctions are somnolent. On the other hand, those showing irritability of the thyroid may suffer from insomnia.—DR. LÉOPOLD LÉVI, in *Monde Méd.*, May 1, 1929 (through *Med. Herald*, Mar., 1930).

Current Medical Literature

Experimental Study of Viosterol

In view of the fact that certain investigators, especially in Germany, found that very high doses of irradiated ergosterol caused, in laboratory animals, calcic deposits in certain organs, a detailed study has been carried out by Levaditi and Li Yuan Po with the objects: (1) of determining the precise toxicity of viosterol for laboratory animals; (2) of analyzing the mechanism of calcification of certain organs following massive dosage; and (3) attempting to provoke such calcification in the presence of specific bacterial lesions, such as tuberculosis or chronic encephalitis. The results of their study are published in *Presse Méd.*, Feb. 5, 1930.

The experimental findings, fortified by careful histologic examinations in a large number of cases, show that, while Viosterol in very high doses is toxic (a finding which is true of all curative agents), yet there were no toxic results when ordinary therapeutic doses were employed. Generally, animals subjected to such daily doses continued for a long period, neither clinically nor histologically showed any harmful effects. This was especially seen in simians approximating man, even when doses were administered much exceeding those used in the therapeutics of human rickets.

None of the animals experimented upon, which received subtoxic but frequently-repeated doses, showed heterotopic calcification; but, when such occurred with very high, massive doses, it was most frequent in the kidney or aorta. Certain animals dying from toxemia under such circumstances showed no accumulation of calcium in the tissues.

The New Pyelography

That there are several avoidable dangers associated with pyelography is the opinion expressed by Dr. W. Scott Pugh, of New York, in *M. J. and Record*, Dec. 8, 1929.

Puutrin should not be used for clearing the intestine of flatus as a preparation for pyelography. It is capable of great damage to the intestine.

The author thinks that the warning against the taking of bilateral pyelograms should be changed and stresses their value.

The idea that great pressure is necessary in order to fill the kidney pelvis is wrong. Great force should not be used. A pressure of 30 to 50 mm. of mercury suffices to fill all parts of the kidney pelvis and a greater pressure may cause destruction of kidney tissue.

To check the pressure, the author uses a little instrument which he terms a pressometer (see illustration). This consists of an individually calibrated and certified manometer for the accurate determination of pressure. There is a

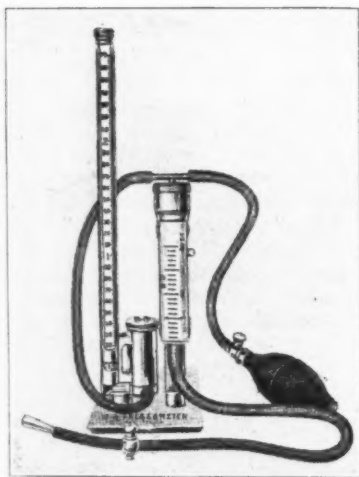


Fig. 1.—The pressometer.

graduated glass reservoir for holding the fluid and a rubber stopper for the same sealed by a threaded metal collar and cap. A metal "T" is introduced through the stopper, communicating with both the manometer, the inflating bulb and the valve, by means of heavy rubber tubing. Another rubber tube extends from the base of the glass reservoir and connects with the catheter adapter. A stopcock is interposed between the glass reservoir and the catheter adapter, for the purpose of preventing the escape of fluid when the former is filled.

The pressometer is placed on a stand between the patient's legs. About 20 cc. of sodium iodide is placed in the reservoir, the stopcock near the adapter being closed. The ureteral catheters being in place, they are made fast to the cap of the adjuster by a little twist. The stopcocks are opened and pressure is made on the bulb until it registers not over 30 to 50 mm. of mercury.

An Operation for the Cure of Hernia

The following operation, described in *M. J. and Record*, Jan. 15, 1930, by Dr. G. A. Hendon, of Louisville, Ky., is stated never to have failed to effect a cure.

For inguinal hernia the canal is exposed, the sac emptied, ligated and excised in the usual manner. A suture of medium-sized kangaroo tendon is introduced into the conjoined tendon near the median line of the abdomen and emerges one-half inch from the margin of the

inguinal canal. It is then carried over the canal and enters Poupart's ligament, almost as far from the margin as it emerges on the opposite side, and emerges as far from the point of entrance as fascial structure will permit. The same course is reversed, mattress fashion, to emerge again at a point half an inch above the point of entrance. Successive sutures are placed in this way until a sufficient number have been introduced to close the canal. When the sutures are drawn upon, the surfaces included in their grasp are inverted and present planes of broad extent for contact.

After tying the kangaroo sutures, the fascia of the external oblique is sutured over the line of suture with chromic catgut. The skin is closed with a continuous suture of horsehair.

For ventral or umbilical hernia, the fascia of the abdominal muscles is exposed around the hernial opening, but the peritoneum is not opened, the kangaroo sutures being placed in sufficient proximity to each other to close the ring by inversion as described for inguinal hernia.

Diagnosis of Anorectal Fistula

To distinguish between an anorectal fistula and a sinus, Dr. J. F. Montague, in *M. J. and Record*, Jan. 1, 1930, states that he has made modifications in the ordinary probe cannula. It is equipped with a sliding collar, whose function is to prevent backward flow or spurting of diagnostic fluid during injection of the tract. If this diagnostic fluid passes into the anal canal or rectum, the existence of a fistula is established.

To the probe is attached a Cook carpule syringe with a Luer adapter. The carpule carries a solution, which is prepared by adding sufficient methylene blue to a 50-percent solution of plain Petrolagar, in water, to give the mixture a bluish-green color. An aqueous methylene blue solution or a carpule containing peroxide of hydrogen may be used as indicated.

Diagnosis is facilitated by inserting into the rectum (before starting the injection), through a small endoscope, a fistula drain, which consists in a cotton roll one-quarter inch in diameter, threaded upon a tape. This is left in place during the process of injection and on it is marked the exact position occupied by the anal margin, by placing a few drops of the staining solution upon it. Upon withdrawal of this fistula drain, if staining is observed above the point previously indicated as the anal margin, one can very accurately gauge how far up on the anorectal wall the internal opening of the fistula is.

Toxicity of Acriflavine

It is generally considered that the maximum tolerated dose of acriflavine is 10 times the clinical dose (10 mgm. per kilogram of weight).

In *Schweiz. med. Wchnschr.*, Sept. 21, 1929, Dr. A. Liengme reports that he found that the maximum doses for guinea pigs and rats were 20 and 40 mgm., respectively. He considers that, clinically, with a dose of 10 mgm., the margin of safety is narrow, as it must be considered that 40 mgm. is a little higher than can be tolerated by a healthy man. Such a dose

would be less tolerable when the renal and hepatic cells were already affected.

While the author is satisfied in regard to the definite indications for acriflavine medication, he insists that caution as regards dose limits should be observed.

New Stigmata of Hereditary Syphilis

Certain unusual stigmata of hereditary syphilis are described in *Urol. and Cutan. Rev.*, Jan., 1930, by Dr. G. Mestchersky, of Moscow, Russia. They are as follow:

Fissures, placed perpendicularly on lower lip, especially a deep median fissure; permanent absence or defective development of one or more lateral incisors; diffuse cutaneous phlebectases, affecting the venous arborizations in different parts of the body; infantile little finger; absence of the ensiform process—axiphoidia; a "coccygeal fossett," lying in the depth of the gluteal furrow exactly in the median line, representing a form of spina bifida occulta; and increase in size at the right sterno-clavicular articulation in right-handed persons or the corresponding left joint in left-handed persons.

Manic-Depressive Psychoses in Private Practice

Manic-depressive psychoses are common and many such cases are of so mild a type that hospitalization is unnecessary. In *Arch. Neurol. and Psychiat.*, Jan., 1930, Dr. H. A. Paskind reports upon the age and sex incidence in 633 such cases, observed in the private practice of Dr. Hugh T. Patrick, of Chicago.

The ratio of female to male patients in this series was 51.4 to 48.6 percent. In the entire series, first attacks were most common between 26 and 30; in the male series, between 36 and 40, and in the female series, between 26 and 30. In the entire series, 54.3 percent of first attacks occurred after 30; in the male series, 66.2 percent after 30; and in the female patients, 43 percent after 30.

The difference between these observations and those of others is, in all likelihood, due to the fact that other studies or statements are based on patients in hospitals, and only the patients with the most severe cases are hospitalized; the present report is based on a study of extramural patients. It would seem, then, that the predominance of younger patients and of female patients in other studies is due to the fact that manic-depressive psychosis runs a more malignant course in younger persons and in females, since in hospital statistics these are much more prevalent than in this series.

Treatment of Paronychia

Paronychia—infection along the finger nail—is a common affection. In *J. Indiana St. M. Assn.*, Dec., 1929, Dr. S. L. Koch, of Chicago, states that, if such an infection does not yield to hot, wet dressings it is necessary, in order to secure drainage, to make an incision on each side of the nail, sufficiently far lateralward to

prevent injury of the nail bed, to lift up the eponychium between the two incisions and, with a sharp-pointed scissors slipped underneath the nail, to amputate the proximal one-third of the nail.

The eponychium is held away from the nail bed with a little wedge of petrolatum gauze and a hot, wet dressing applied to the finger until the infection is under control. Usually, at the end of 48 hours, intermittent soaking in hot sterile water or boric solution can be substituted for the continuous hot, wet dressing and, after another 48 or 96 hours, a dry dressing applied.

There may be two complications: Insufficient drainage (due to failure to amputate enough of the nail), or a secondary infection.

Acquired Retroversion of Uterus and the Pessary

Retroversion of the uterus is commonly an acquired condition.

In *Canad. M. A. J.*, Dec., 1929, Dr. J. O. Polak, of Brooklyn, expresses the opinion that a pessary will cure an acquired retroversion, if the uterus can be completely replaced and if there is sufficient muscular structure in the pelvic floor to hold the pessary in place.

If proper care were given to the woman at her confinement or at the time of her abortion, and during the following period, more than 80 percent of the retroversions that fall into the hands of operating surgeons would be cured by palliative means.

Since 1910 there has been a post-partum follow-up system in the author's clinic. Each patient, before leaving the hospital, was instructed to assume the knee-chest position night and morning and taught the "monkey trot" (walking on all fours) and told to return to the clinic one month from date of her discharge from the hospital. If at this visit the uterus was retroverted, it was replaced and a properly fitting pessary adjusted to retain it in anteversion. Only 2 percent of the patients had uncorrected retrodisplacements at the end of 3 months. Inflammatory and hyperplastic changes, of course, contraindicate the use of a pessary.

The First Stage of Labor

A study of statistics of mortality during the puerperal stage suggests errors of judgment during the first stage of labor as among the principal causes.

In *J. Indiana St. M. Assn.*, Dec., 1929, Dr. H. F. Beckman, of Indianapolis, in discussing the various aspects of the first stage points out that the pelvis is only one factor in the equation of labor; the fetal head must be particularly studied. Its size, hardness and moldability must be determined and the degree of ossification, size of fontanelles and sutures determined, as well as the position in which the presenting part approaches the pelvic constrictions, as the posterior position contributes much to the pathology of labor.

The relative proportions existing between head and pelvis can be determined by careful palpation, and more valuable information can be

obtained by the roentgenogram, especially by the lateral projection.

Manual and instrumental procedures for anterior rotation of the occiput are devised mostly for the second stage of labor and imply complete dilatation of the cervix. In the author's experience, manual external rotation in the first stage of labor has succeeded only in those cases where the natural mechanism of labor would have created the same end-result, with none of the danger and discomfort associated with the maneuver.

Regarding drugs, morphine, in dosage of 1/6-grain (10.8 mgm.) is safe in its effects on the child; but it is not wise to use it within two hours before the expected termination of labor. Atropine, 1/100-grain (0.65 mgm.), used for a spastic cervix, is followed at times by seeming results. Pituitrin has no place in the first stage of labor in any dosage, because of the uncertainty of its effect. Chloral hydrate, sodium bromide, barbituric acid preparations and the hot pack all have a field in the first stage of labor, at times, and should be kept in mind.

The points to be considered in the conduct of the first stage of labor are: Unbiased analysis of the case; religious respect for asepsis; mitigation of suffering always; formulation of a clearly defined course for the second stage.

Gold-Sodium Thiosulphate in Lupus Erythematosus

In *Med. J. Australia*, Oct. 19, 1929, Dr. J. H. Kelly reports upon a series of 20 cases of lupus erythematosus, treated with gold-sodium thiosulphate. The maximum dose was 0.1 Gm. for intravenous injection. Dr. Kelly reports that the effect of the drug is so remarkable that it may be considered as a specific. With the dose used, toxic symptoms were frequent, though not severe; the author believes that comparatively small to moderate doses would secure good results.

In discussion, Dr. L. P. Johnson stated that he had used this salt in the treatment of about 25 cases, with generally good results. Dr. K. G. Colquhoun, in 17 cases, obtained a complete cure in 5, and in 10 there was definite improvement. This reporter considered that gold-sodium thiosulphate represented the only treatment capable of curing lupus erythematosus completely.

Contracted Pelvis and Cesarean Section

Most of the pelvis which give obstetric trouble are the generally contracted, the rachitic flat, or the high assimilation with its false promontory and exaggerated inclination at the brim. In *Canad. M. A. Jour.*, Dec., 1929, Dr. J. O. Polak, of Brooklyn, points out that, in this class of pelvis, from 60 to 80 percent of the labors terminate spontaneously, yet the surgeon unschooled in the obstetric art needlessly consigns many of these women to operation.

Series of statistics show that, in perfectly clean cases, operated upon before the onset of labor, the mortality averages 2 percent; after the

membranes have ruptured it ranges from 6 to 14 percent; and after instrumental interference has failed it reaches the formidable figure of 27 percent.

Thyroid Extract in Dementia Praecox

O. Lingjaerde, in *Nordisk Medicinsk Tidsskrift*, reports favorable results in dementia praecox from the use of comparatively large doses of thyroid extract. He investigated the basal metabolism in 130 cases and invariably found it below normal in this condition.

Believing that some previously unsuccessful attempts to treat dementia praecox with thyroid extract may have been due to insufficient dosage, Lingjaerde pushed the treatment until the basal metabolism was over 110-115, and the pulse rate had risen to 80-100, at which stage he kept his patients for several months.

He observed great improvement and freedom from symptoms as a result of this treatment.

The Recent Medical Graduate and the Army

That the recent medical graduate would do well to consider the advantages of entering the Army, is the opinion of Capt. W. L. Wilson, M.C., U. S. A., writing in the *Milit. Surgeon*, Feb., 1930.

Economically, a financially unworried life is assured. Death and disability insurance is automatically provided and, on retirement at age of 64, the Army medical officer is assured of an income equivalent to that of the civilian doctor who has saved \$60,000.

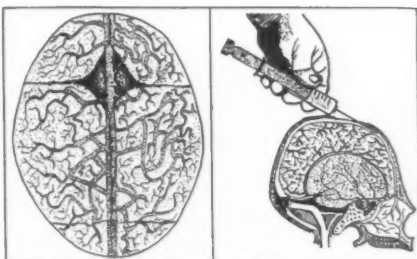
The opportunities for professional improvement are most excellent in the Army. There is neither commercialism nor competition. The Army doctor pursues a practice of medicine, not of economics. The educational, social, patriotic and recreational advantages are real and there is a historical background which fans ambition and the pursuit of any medical study which may appeal to the man.

Blood Transfusions and Intravenous Therapy in Infants

The indications for blood transfusions and intravenous therapy in infants are widening and, owing to the difficulty of employing the ordinary veins of a young infant, venipuncture of the superior longitudinal sinus has been developing, so that it can be done by any physician who possesses the skill and ability to acquire the technic. Its use is confined entirely to infants prior to the closure of the anterior fontanelle.

The technic is as follows:

The scalp over the anterior fontanelle is shaved and disinfected with iodine. No anesthetic is required. The child lies in bed with its head raised to a convenient angle on two pillows. A nurse holds the head securely by means of a hand on each side; the operator stands in front or rear, at the child's right or left side. Holding the needle at an angle of about 50 to 60 degrees, with the plane of the fontanelle, it is inserted in the middle line,



Diagrams Showing Relation of Superior Longitudinal Sinus to Fontanelle; and Position of Needle entering the Former.

half way between the anterior or posterior angle and the center of the fontanelle. Some little force is required to push the needle through the firm pericranium, and when the resistance is overcome one is able to feel that the point of the needle is in a cavity. The point should not penetrate more than one-eighth of an inch below the surface of the skin since the sinus lies immediately under the surface of the pericranium. If the needle is in the sinus, blood flows at once into the syringe; should no blood appear it is a sign that the needle has penetrated too far and passed completely through the sinus. This mistake is often made by a novice, but fortunately it rarely causes damage, and may be rectified by carefully withdrawing the needle until a flow of blood into the syringe shows that the point has reentered the sinus.

A needle, size No. 26, with a bevel measuring 2 mm. should be chosen.

It is strongly urged that those who contemplate undertaking venipuncture of the superior longitudinal sinus should acquire the technic first on the cadaver and review the anatomy by dissection so that the relations of this vein be thoroughly understood.—Symposium in *Internat. Med. Digest*, Jan., 1930.

Natural Abortion

Some of the possible causes of natural abortion are dealt with by Dr. Beckwith Whitehouse, of London, Eng., in *Brit. M. J.*, Dec. 14, 1929.

Dr. Whitehouse is of opinion that it cannot be said that syphilis increases the predisposition to abort during the early months of pregnancy. Syphilis is not so much a cause of abortion during the early months, as of premature labor and stillbirth.

Failure of reproductive power (defective vitality of the germ cell) may be a factor in abortion; but before this can be proved, information must be forthcoming of the place of abortion in the list of pregnancies of exceptionally fertile women.

Regarding the relation of the placenta to abortion, in the case of 300 women who gave a clinical history of three or more abortions, uterine lesions were present in 53.3 percent; and evidence of chronic inflammation in the pelvis, in relation with either the genital tract or pelvic peritoneum, occurred in 26.6 percent of the patients.

Other matters which the author stresses as

causes of abortion are disease of the ovum, independent of its environment; defective nutrition of the ovum, including deficiency of vitamin E; and the possibility of contagious abortion by Bang's bacillus.

Types of Deafness

An analysis of the records of the last 163 consecutive patients with impaired hearing, as given by Dr. Jas. E. Davis, of Hartford, Conn., in *Laryngoscope*, Jan., 1930, leads to the following conclusions:

1.—By careful study of cases it is possible to classify deafness as perceptive, conductive, progressive or otosclerotic.

2.—Such classification is an aid to statistical studies of etiology, clinical signs and symptoms and treatment.

3.—The etiologic factors most often responsible for deafness of the perceptive, conductive or progressive type are the acute infectious diseases, focal infections and nasal and pharyngeal infections and obstructions.

4.—Heredity and metabolic disorders appear as the most probable factors in the causation of otosclerosis.

5.—Complete history, careful examination of nose, throat and ears, painstaking functional examination, and occasionally studies of blood and metabolism, are essential for correct diagnosis.

6.—The results of the audiometer test correspond to those obtained by the usual functional tests.

7.—Prophylaxis consists largely in the early recognition and proper treatment of predisposing and exciting causes.

8.—Local treatment of the eustachian tube, by inflation with warm medicated vapors, shrinking solutions, bougies and sounds, is beneficial in many cases of deafness.

9.—Removal of foci of infection, where such foci may be a contributing factor, is indicated in practically every case of deafness.

10.—Specific glandular therapy and other necessary treatment of metabolic disturbances seem at present to be the most hopeful means of combating otosclerosis.

Temporomaxillary Subluxation ("Snapping Jaw")

The term "snapping jaw" has been applied to a certain group of functional derangements of the lower jaw.

On the basis of a personal case, Dr. J. H. Morris, of New York, in *Surg. Gynec. and Obstet.*, Feb., 1930, has given a thorough study of the conditions, from which he reaches certain conclusions.

Temporomaxillary subluxation is a definitely distinct entity, the pathologic condition of which is characterized by a distortion of the normal relations of the joint meniscus, leading to capsular relaxation. Resulting disturbances in joint mechanics are responsible for a variety of joint dysfunction best known as snapping jaw.

Commonly seen as a painless, noisily functioning joint, the efficiency of which is not at all impaired, it is occasionally encountered in the form of chronically recurring attacks of pain and locking, requiring immediate treatment.

There exists an unexplained reluctance to apply to this joint the radical operative measures which have become the accepted treatment of analogous minor lesions of other joints.

Failure to take into consideration the pathologic physiology of temporomaxillary subluxation, has been responsible for a large number of proposed methods of treatment representing a wide divergence of principles.

Two methods of treatment are emphasized which are based upon sound surgical principles and upon a study of the mechanics of the joint.

In the first, the joint capsule is exposed through a vertical incision, which is then extended upward and backward exposing the temporal fascia. A strip of this fascia is turned downward in such a manner as to permit suture of the free end into the joint thus limiting the excursion of the condylar head. The second method is simple plication of the joint capsule.

Utilization of these methods should standardize treatment and demonstrate the practicability of accepting a larger group of these cases for radical operation.

Spontaneous Rupture of the Heart

A case of spontaneous rupture of the heart, in a man aged 52, apparently always in good health previously, is reported by Dr. A. S. Hyman, of New York, in *Ann. Intern. Med.*, Feb., 1930. The symptomatology suggested ruptured duodenal ulcer, but there was no history to support it. At autopsy, the rupture was found between two cardiac chambers and not into the pericardium.

Spontaneous rupture of the heart is not infrequent. The close resemblance of its symptomatology to that of ruptured gastric or duodenal ulcer cannot be overemphasized, but the extreme vasomotor collapse should put the clinician on his guard. Discovery of a shrill, superficial murmur, systolic in time and out of proportion to the quality and character of the other heart sounds, should suggest the possibility of a spontaneous rupture of the heart.

Hemopericardium always accompanies spontaneous rupture of the heart to a greater or lesser degree, but the amount of blood in the pericardium apparently bears no relation to the cardiovascular reaction to the injury. Prognosis is usually fatal, in contradistinction to that in traumatic injury.

A Simple Abortive Treatment of Influenza

The following treatment, given by Dr. E. Nesnera, of Budapest, in *Practitioner*, Lond., Feb., 1930, was found successful in more than 1,500 cases during recent epidemics of influenza. Success depends on the application of the treatment within the first 24 hours, and then following it strictly as directed.

The drug used is a powder composed of quinine hydrochloride, phenacetin and aspirin (acetyl-salicylic acid), of each 5 grains (0.32 Gm.) for adults. For children, one-quarter to two-thirds of the adult dose, according to age. In serious epidemics, powders of 17 grains may be used. The first powder should be taken directly after the onset of symptoms. Then,

according to seriousness of the case, further powders up to four are taken at intervals of $2\frac{1}{2}$ to 3 hours, which should be strictly observed. The fever generally stops after the fourth powder. If there is a relapse, give powders of half the quantity every 3 or 4 hours.

Children's Dentistry

In J.A.M.A., Feb. 22, 1930, Drs. C. Sweet and associates, of Oakland, Calif., draw attention to the fact that the permanent teeth depend upon the deciduous teeth for freedom from caries and for maintenance of jaw growth. The deciduous teeth often decay and the necessity for dentistry is obvious.

Preventive dentistry is the only cheap dentistry. The total cost of dental attention, in groups of children, over a period averaging 6.45 years, ran from \$47.82 to \$73.57. Those children report regularly for dental attention once every four months. Physicians should impress upon parents the necessity for continuous attention to the dental needs of the growing child. No child is in a perfect state of health who has disease within his mouth, and the best possible dental service should be offered for children in every community.

Neoarsphenamine with Thiosulphates and Bromides in Syphilis

An experimental and clinical study, by Dr. K. Hubschmann of Prague, Czechoslovakia, of the value of mixtures of neoarsphenamine and sodium thiosulphate and of neoarsphenamine and sodium bromide in the treatment of syphilis is given in *Urol. and Cutan. Rev.*, Feb., 1930.

The following conclusions were reached:

1.—Neoarsphenamine solutions, in solutions of sodium thiosulphate, are not more poisonous than solutions in distilled water.

2.—Rabbits tolerate higher doses of neoarsphenamine when dissolved in a solution of sodium thiosulphate, than those which are given as normally toxic.

3.—In men, the possibility is perhaps given to attain in this manner, a better saturation of the organism with neoarsphenamine—a thing which is very desirable in some stages of syphilis.

4.—The experiments do not at all indicate that a preliminary injection of sodium thiosulphate can prevent toxic symptoms, where an overdose of neoarsphenamine has been given.

5.—The observation and count of spirochetes in men, indicates at least an equal efficacy, if not a higher, for solutions of neoarsphenamine plus sodium thiosulphate, than those of neoarsphenamine in distilled water alone.

6.—Clinically, it could be demonstrated that the healing process of syphilitic symptoms after neoarsphenamine plus sodium thiosulphate progresses at least as fast as after neoarsphenamine solutions in distilled water.

7.—Also, the tolerance of the patient after neoarsphenamine is equally good, and often even better.

8.—The possibility is presented that the arsphenamine, on account of the collaboration of sodium thiosulphate, can more easily break through the barrier which exists between the

blood and the central nervous system. To the same end, and possibly also to a raising of the tolerance and prevention of unpleasant by-effects, mixtures of arsphenamine with concentrated solutions of sodium bromide appear to be of use. The experiments carried out upon rabbits, show that solutions of neoarsphenamine plus sodium bromide are not more poisonous than those of neoarsphenamine and distilled water. Also mixtures of neoarsphenamine and sodium bromide are very well borne by men.

Resuscitation of the Asphyxiated New-Born

It has been said that the methods in practice for resuscitation of asphyxiated new-born infants are barbarous and worthy of the dark ages. In *Am. J. Dis. Child.*, Jan., 1930, Dr. R. S. Cron, of Milwaukee, points out that a new-born infant, who fails to breathe or is asphyxiated, should not be treated by methods of cutaneous shock or stimulation; these are harmful and may add to the already present cerebral ischemia.

Oxygen is a food, not a stimulant. Carbon dioxide is a stimulant to the respiratory center. In the absence of oxygen, the tissues of the body cannot produce carbon dioxide and, when the center is depressed, additional carbon dioxide must be administered to induce its activity.

No attempt at artificial respiration should be made until the air passages have been cleared of amniotic fluid, mucus, blood and other detritus.

The administration of oxygen and carbon dioxide can be accomplished by means of the pressure inhalator, with manual compression of the infant's thorax, or by means of the intra-tracheal catheter, utilizing the physician's expired breath. The air contains about 5 percent of carbon dioxide and 20 percent oxygen—sufficient for stimulation and a proper foodstuff.

Psychiatric Problems in Children

The psychiatric problems of young children are considered by Dr. Max A. Bahr, of Indianapolis, in an article in *J. Indiana St. M. A.*, Jan., 1930.

The community which would equip modern hospitals for the treatment of its typhoid patients, but neglect completely the sewerage or water supply, would show little judgment; but it is no more intelligent or economic to lay all the emphasis on the organization of reformatories, hospitals for the insane, jails and correctional institutions, while neglecting the school training of the deficient child.

Defective children are likely to be misunderstood: they are apt to be judged by the standards suitable for the normal child and to be punished for faults and deficiencies which are almost inevitable results of their constitutional limitations.

Apart from neurotic and mentally defective children, who should receive special examination and attention and have their home environment supervised, there are those who show distinct mental disease. Young children, when insane, show predominately emotional symptoms, because the reasoning faculty is the last to appear and, at a time when feeling is well developed, intellect is just beginning to make its appearance. Mania, therefore, is the insanity of early childhood.

Juvenile paresis is the commonest psychosis of childhood which follows in organic brain trouble.

What is done during the first ten years is infinitely more important than anything that can be accomplished later.

Bismuth Orally in Treatment of Syphilis

Dr. R. O. Brigham, of Toledo, Ohio, reports in *Am. Med.*, Dec., 1929, that, in a number of cases of syphilis with strongly positive Wassermann reactions, he has used bismuth orally, as a soluble bismuth-sodium tartrate preparation, combined with an organic iodide, and the results, clinically and serologically, have been excellent.

While the author does not believe that the oral administration of bismuth is a cure for syphilis in all its stages, he thinks it is a very valuable adjunct where used with mercury and arsenic.

The "Guttadiaphoto"—A New Blood Test

The "Guttadiaphoto" is the invention of Drs. F. Meyer and W. Bierast, of Hildesheim, Germany; an article on the subject by Dr. V. Schilling, of Berlin, appears in *J. Missouri S. M. Assn.*, Jan., 1930. The name stands for an original form of clinical blood examination, the technic of which is claimed to be very simple and rapid and the information obtained sufficient for general purposes.

There are 3 strips of colored pasteboard: red, green and blue. These colors represent certain dyes which are variously affected by pathologic conditions. The blood-reaction sensitivity is very high but is unspecific and, generally speaking in particular pathologic conditions, little more than intensity of disease, without its specific type, can be learned. On the other hand, in anemias, etc., the information, both as regards specificity and intensity, is at once seen by the appearance of the blood stain on the dyed pasteboard.

The Guttadiaphoto translucent picture of blood drops can easily be made in the office. The physician who is familiar with these pictures may receive great help from an unspecific, biologic, variable symptom such as this, in association with his other clinical data. The picture may be such as to stimulate further study of the case with a directing slant. Cases which are thought to be functional or nervous disturbances may, by this test, be shown to be otherwise.

Fractures of the Foot Bones

It is said that fractures of the metacarpals, metatarsals and phalanges of both extremities exceed those of all other bones combined.

In a recent series of 46 cases of fractures of the foot, excluding the os calcis, observed by Drs. W. L. Brown and C. P. Brown, of El Paso, and reported upon in *J.A.M.A.*, Feb. 15, 1930, there were 28 single and 18 multiple fractures and the incidence for the metatarsals was about equal, except for the fourth, which was the smallest. There was 1 fracture of the

astragalus, 1 of the cuneiform and 2 of the sesamoids.

When 46 days is considered as the average loss of time, as reported by the Industrial Accident Company of Ohio, for a fracture of the metatarsal, and 33 days for the fracture of a phalanx, and it realized that these fractures are the most common of all, we can then picture the tremendous loss to labor and industry when disability is prolonged beyond the normal period because of the lack of proper diagnosis. If physicians took as much pains in the diagnosis and treatment of fractures of the foot as they do in fractures of the hand, the results would be greatly improved.

Viosterol in Parathyroid Tetany

Viosterol (irradiated ergosterol) has been found to raise the serum calcium and alleviate tetany in adults having a parathyroid or calcium deficiency.

In *J.A.M.A.*, Feb. 15, 1930, Dr. J. C. Brougher, of Vancouver, Wash., reports the cases of four patients who developed a parathyroid deficiency after bilateral, subtotal lobectomy and were relieved of tetany by the administration of cod-liver oil and subsequently viosterol. Two of these patients did not develop tetany until pregnancy. A fifth patient, who developed tetany after an extensive intestinal resection, was benefited by the use of viosterol.

Care of the Lactating Breast

The care of the breast during pregnancy needs very little consideration; unless some definite indication for interference arises, the breasts should be left strictly alone.

In *Am. J. Obst. and Gynec.*, Dec., 1929, Dr. F. B. Smith, of Houston, Texas, remarks that it is during the first few days immediately following parturition that the obstetrician must pay particular attention to the breasts. As a prophylactic against bacterial invasion, he has found the use of a modified Dakin's solution better than any other agent. One-tenth of 1 percent of sodium hypochlorite*, in sterile water, is used. This solution, on a small sponge or pledget of cotton, is placed in contact with the nipple for one minute immediately preceding the act of nursing. After taking the infant away the nipple is sponged with sterile water to remove the film of milk left by the infant's lips.

Nipple fissures, if present, should be treated by protection with a sterile glass shield and they should be touched with 10-percent silver nitrate solution, applied with a toothpick.

Pain and engorgement may be treated with codeine and the intermittent application of ice bags. An engorged breast should not be manipulated nor massaged but the breasts should be restored to their correct anatomic position by the use of a snug binder.

With milk fever or abscess, hot, wet applications are continued for 24 hours and then, as the abscess is usually palpable, drainage should be instituted by incision.

In the case of inverted nipples, the milk is

*Chlorazene should work equally well and is more generally available.—Ed.

removed by a suitable pump and given to the baby for 12 days or so and a gradual initiation of the use of artificial food is made. Strict asepsis in the use of the pump is a prime necessity.

Treatment of Placenta Previa

Regarding the present-day treatment of placenta previa, Dr. J. P. Greenhill, of Chicago, in *Surg. Gynec. and Obstet.*, Jan., 1930, urges that all patients who have a painless, causeless, hemorrhage, in the last trimester of pregnancy, be immediately sent to a hospital without any vaginal examination and usually without any vaginal pack.

The best treatment for cases of central or partial placenta previa is the low cervical cesarean section, under local anesthesia. In infected cases, the uterus should be amputated after the baby is removed.

For cases of marginal placenta previa and for some partial placenta previas, the older methods, such as rupture of the membranes, Braxton Hicks version and metruyrusis should be employed.

In cases of central or partial placenta previa, with severe hemorrhage, the abdominal route is advocated, regardless of the condition of the child.

Amiodoxyl Benzoate in Arthritis

In *Texas St. J. Med.*, Feb., 1930, Dr. DeW. Neighbors, of Fort Worth, reports that Amiodoxyl Benzoate (Abbott) was given, intravenously, in 14 cases of arthritis of the hypertrophic, arthralgic, atrophic or rheumatoid types. The duration of the disease varied from a few months to 20 years. Dr. Neighbors states that the results of treatment obtained in these cases have been very satisfactory: 8 patients experienced marked symptomatic relief, to the extent that they are free of pain and the tenderness, swelling and muscle spasm of the involved joints have been much improved; 2 patients were moderately and 2 slightly improved.

Neighbors has found repeatedly that, following Amiodoxyl Benzoate treatment, improvement in joint symptoms may not be fully apparent until a few weeks have elapsed, and an improvement in general health may be manifested still later.

Headache

An etiologic classification of head pains is made by Dr. C. D'a Wright, of Minneapolis, in an article in *Jour. Lancet*, Feb 1, 1930.

Head pains are classified in 5 groups: (1) Those due to ametropia, muscular imbalance and other eye conditions; (2) those due to abnormal sinus and ganglionic conditions; (3) those due to diseases involving other structures of the head; (4) migraine; (5) those due to other pathologic disturbances not specified above.

In the first class, abnormalities of the recti muscles play a very important part. The diagnostic symptom is the constant headache due to use of the eyes.

Ethmoidal and sphenoidal sinus infections give rise to frontal, parietal and occipital head-

aches, but are not accompanied by Ewing's sign (tenderness at Ewing's spot, near the covering of the trochlea). Pain from anterior ethmoidal infections usually starts around the nasal portion of the maxillary bone and, in severe cases, is referred to the forehead between the eyebrows; it is steady and without exacerbation and thus is differentiated from the pain of frontal sinus suppuration.

Migraine is too well recognized to require much differential study.

The last group of headaches includes those due to tic douloureux, from herpes zoster, "neurasthenia," diabetes, secondary anemia and other pathologic entities.

Metaphen as a Germicide and Disinfectant

The disinfection of the skin of the patient and the hands of the surgeon is still a fundamental problem in operative surgery.

In *J.A.M.A.*, Apr. 19, 1930, Drs. G. W. Raiziss, Marie Severac and J. C. Moetsch, of Philadelphia, report the results of some very remarkable experiments in this regard, namely, a comparative test of various standard germicides, and disinfectants, including Metaphen (mercuri-4 nitro-2-cresol). This drug is known to possess much greater germicidal properties than mercuric chloride. Though particularly destructive to the cocci group, it has a high bactericidal effect on other micro-organisms. In a one-hour exposure of anthrax bacilli to Metaphen, it is eleven times more powerful than Mercurochrome. In long exposures it is 47 times more powerful than mercuric chloride and 4,300 times more powerful than phenol, killing the bacteria in a dilution of 1:8,000,000.

The work reported here is a further investigation of the germicidal and disinfecting value of Metaphen, compared with other well known drugs of the same kind, under exactly similar conditions and using bacteria of the same virulence.

Equal areas on the sterile, shaved abdomen of a rabbit were infected in the same way with cultures of staphylococcus, streptococcus and *B. subtilis*. Each area was then subjected to the action of different antiseptic agents applied in exactly the same manner for the same time, and, following removal of the antiseptic, cultures were made from each area at regulated intervals. The results of the tests are shown in the accompanying table:

These results show that ethyl alcohol is disqualified as a skin disinfectant; that a solution of hexyl-resorcinol, 1:1,000, gave growths of bacteria in all tests; that a 5-percent solution of iodine is ineffective and a 7-percent solution is effective in 88 percent of the cases; that a 2-percent Mercurochrome-alcohol-acetone aqueous solution showed only 79 percent efficiency; finally, that an aqueous solution of Metaphen 1:2,500 produced sterilization in all of the fifty tests performed. Better results were obtained with Metaphen in dilutions 175 and 50 times greater than these employed for iodine and Mercurochrome respectively.

TABLE 1.—EFFECT OF VARIOUS ANTISEPTICS TESTED

Solution	Number of Animals Used	Num- ber of Tests	Con- trol*	Percentage of Cases of Complete Sterilization†					General Average‡
				Intervals‡					
				5 Min.	15 Min.	30 Min.	45 Min.	60 Min.	
Ethyl alcohol 80% and 95%	4	20	Positive	0	0	0	0	0	0
Hexylresorcinol solution S. T. 37									
0.1% 1:1,000	2	10	Positive	0	0	0	0	0	0
0.05% 1:2,000	1	5	Positive	0	0	0	0	0	0
Acridavine base									
2% 1:50	2	10	Positive	50	50	100	100	100	80
1% 1:100	1	5	Positive	0	0	0	0	100	20
Iodine									
7%	10	50	Positive	70	80	90	100	100	88
5%	3	15	Positive	0	0	33	0	0	7
1%	1	5	Positive	0	0	0	0	0	0
Mercurochrome, aqueous solution									
2% 1:50	3	15	Positive	33	33	33	66	100	53
1% 1:100	2	10	Positive	50	0	0	50	0	20
Mercurochrome, alcohol-acetone-water solution									
2% 1:50	16	80	Positive	50	87	87	81	87	79
Metaphen, aqueous solution									
0.2% 1:500	3	15	Positive	100	100	100	100	100	100
0.1% 1:1,000	3	15	Positive	100	100	100	100	100	100
0.05% 1:2,000	2	10	Positive	100	100	100	100	100	100
0.04% 1:2,500	10	50	Positive	100	100	100	100	100	100

*Positive control indicates the presence of bacteria on the area of the skin to which cultures were applied.

†The figures shown give the percentage of complete sterilization for each interval and for each antiseptic tested. Thus, 0 means positive growths of bacteria in all tests of the interval in question, while 100 means complete sterilization in all tests in the interval considered.

‡Interval indicates that time elapsing between the removal of the gauze saturated with antiseptic and the making of culture tests of the skin.

§General average is the percentage of complete sterilization in all tests with the given solution, all intervals included. Thus, 100 percent general average means complete sterilization in all tests and at all intervals with the solution in question.

Ephedrine in Severe Myasthenia Gravis

Dr. Harriet Edgeworth, of Tucson, Ariz., describes, in *J.A.M.A.*, Apr. 12, 1930, her own condition of myasthenia gravis, with other complications, owing to which she had to remain in bed, helpless, for several years. Every known remedy and the highest medical skill failed to effect more than slight temporary improvements. Ephedrine, taken for a concomitant condition, was found to relieve the muscular weakness. When the ephedrine was discontinued, the weakness returned. For the past 3 months, ephedrine $\frac{3}{4}$ grain (48 mgm.) has been taken daily and the doctor is able to walk about, get into a car, speak, chew, write letters and read newspapers, all of which were impossible before. Other general symptoms have also improved. Strength is immediately lost if the ephedrine dose is remitted. The doctor asserts that there is no possibility of a psychic factor being associated with the recovery in this very severe case of myasthenia gravis.

Control of Hay-Fever

According to the conception of Dr. Hiram Byrd, of Detroit, as expounded in *Ann. Intern. Med.*, Feb., 1930, the clinical symptoms of hay-fever are the local expressions of excess efferent currents, routed through the nasal nerves

and Meckel's ganglia. Regardless of what the antecedent causes of such impulses may be, their symptomatic manifestations may be prevented by injecting the two nasal nerves and the two Meckel's ganglia with alcohol, that is to say, the clinical symptomatology of hay-fever may be arrested by this method of therapy.

This theory was verified in a number of clinical cases by the author.

The nasal nerves are injected through the orbit, at a point just proximal to the anterior ethmoidal foramen.

The author asserts that the arrest of sensory, motor respiratory and secretory dysfunctions, in connection with hay-fever, by intercepting the efferent impulses in excess quantum, involves nothing unique or restricted to hay-fever phenomena, but is merely a part of an underlying principle, universal throughout the body.

Acridavine in Gonorrheal Infections

In *Am. J. Surg.*, Jan., 1930, Dr. H. L. Wehrbein, of Brooklyn, following investigations of the treatment of gonorrhea with acridavine and other agents, states that, after local treatment of the anterior urethra with acridavine or necaron (a mixture of sodium-silvercyanate and sodium cholate) solutions, sharp rises of the mononuclear percentages occur, more marked with acridavine than with necaron.

Acriflavine has been examined as to its local effect on tissue and it has been found that it has a very marked local influence on reticulo-endothelial proliferation, where it is deposited even in highly diluted solutions. This observation has been used to explain its sometimes-marked effect on septic infections, since the therapeutic doses are usually so small that the bactericidal effect is negligible.

It is not unlikely that its activating effect on the reticulo-endothelial elements may also be responsible for those cytologic findings. If this is so and, if we admit the rather striking superiority of acriflavine in acute anterior gonorrhea over most other drugs, it would be logical to assume that the reticulo-endothelial system is an important factor in the defense of the organism against the gonococcus.

The County Contract and Clinic

The need of medical men taking hold and controlling the dispensing of free or semi-free medical service in the community has been put into practical effect by the Scott County Medical Society, Iowa.

As reported by Dr. J. I. Marker, of Davenport, in *J. Iowa St. Med. Soc.*, Feb. 1930, the society incorporated as a business concern and entered into a contract with the County Board of Supervisors "to furnish all medical and surgical care and treatment as may be required during the calendar year 1930 for patients in Scott County, Iowa, arising within the city of Davenport, the City of Bettendorf and Davenport township in said County." Certain expenditures for surgical appliances and a few special drugs are excepted. For this service the Board of Supervisors will pay \$12,600 for the year, payable monthly.

The work of visiting, clinics, nursing, etc., is arranged by the Medical Society, the clinics being maintained by volunteers.

The hope of the County Medical Society is that from this united effort will come an active, united medical society, in which the members can have confidence and whose members will develop increased confidence in the ability and honesty of purpose of each other. By this plan and the changes which will come, the members can control their charitable efforts and serve the community. If there is later a demand for a part-pay clinic, it can come when the profession is ready for it and a working organization will be available, under the control of the medical profession itself, and not of a lay group.

Calcium Deficiency in Allergic Disease

In studying allergic diseases, Dr. G. T. Brown, of Washington, D. C., states, in *Ann. Intern. Med.*, Dec., 1929, that it was found that 42 percent of patients with bronchial asthma, 40 percent of patients with eczema, 37 percent of those with perennial and 28 percent of those with seasonal hay-fever, as well as 58 percent of 160 patients with urticaria or angioneurotic edema, showed a definite calcium deficiency.

Thus calcium deficiency is more frequent in urticaria and angioneurotic edema than in the other conditions.

Patients with low normal calcium should be given calcium lactate and parathyroid orally, and those with definite calcium deficiency should be given the same, plus ultraviolet radiation. The dose of calcium lactate in powder form, for adults, is 5 Gm. (77 grains), twice daily, before breakfast and dinner. The dose of desiccated parathyroid is 1/10 grain (6 mgm.) for adults, in tablet form, 3 times a day, before meals. The ultraviolet therapy should be regulated so that the patient will have a mild skin reaction after each treatment. These treatments should be given every 3 or 4 days.

New Method of Meatotomy

There are several disadvantages in the present methods of performing meatotomy. A new technic, which has given much satisfaction, is described by Dr. E. G. Ballenger and associates, of Atlanta, in *Am. J. Surg.*, Jan., 1930.

Under local procaine and epinephrin anesthesia, following the incision, sutures of No. 00 chromic 10-day catgut are placed at the outer edges of the cut, catching only the skin and mucous membrane in the sutures. Reaching the deeper part of the mucous membrane is made easier by temporarily leaving the second or third stitches long and using them as retractors to open up the meatus and expose the inner margin of the mucous membrane.

The advantages claimed for this method are that healing is prompt; no necessity for sounds; less pain and little hemorrhage; no tendency to contraction; no spraying of urine; and a better cosmetic result.

Selecting Diuretics

There are several efficient diuretics, but the results obtained by their use depend upon an intelligent selection of the drug which is indicated in the particular case, for diuresis is necessary in a variety of conditions.

In *Calif. & West. Med.*, Aug., 1929, Dr. L. G. Rowntree, makes some helpful suggestions as to the choice of a medicament to increase urinary excretion.

Digitalis, he states, is of great value in dropsy of cardiac origin, but has comparatively slight effect in the ascites of nephritis or hepatic cirrhosis.

Calcium chloride, on the other hand, is of value as a diuretic in all forms of edema. However, since it has a tendency to disturb the gastrointestinal tract, it is best given intravenously.

In certain toxemias, where high blood-urea and low chloride levels are found, the intravenous injection of dextrose may aid greatly, by virtue of its diuretic action.

The same holds true in cases of so-called water intoxication, which sometimes results from excessive ingestion of water for diuretic purposes; here, likewise, the intravenous injection of hypertonic dextrose solution is indicated.

In a case of Addison's disease, when the

blood pressure became low and oliguria was present, a combination of dextrose and Pitressin was given. In this connection Dr. Rown-tree remarks that, while in diabetes insipidus Pitressin is used for its antidiuretic effect, in this case of Addison's disease it seemed to act definitely as a diuretic.

When there is combined nitrogen retention and edema, and in other forms of edema, theophyllin compounds and a salt-free diet are called for. In cases of myocardial involvement and chronic passive cardiac congestion, they may prove of decided value.

Streptococcus Cardioarthritis Antiserum

Some reports have appeared in the literature of recent years regarding the favorable effects on rheumatic disease in children, following the use of antiserum prepared from a strain of streptococcus obtained from the blood in typical cases of rheumatic fever.

In *J.A.M.A.*, Mar. 22, 1930, Dr. May G. Wilson, of the Dept. of Pediatrics, Cornell Univ. Med. Coll., reports that, in a series of cases the administration of *Streptococcus cardioarthritis* antiserum and of the soluble antigen of that organism did not seem to influence the usual clinical course, as observed in children with rheumatic manifestations, nor to prevent the occurrence of relapses.

Undulant Fever (Brucellosis)

Undulant or Malta fever—or, more recently and properly, brucellosis—is proving to be a more important factor in morbidity, in the United States, than has been generally believed.

In *Southern M. J.*, for Dec., 1929, Dr. Charles W. Wainwright, of Baltimore, reports at some length upon a number of cases, and sums up the findings as follows.

- 1.—An analysis of 76 cases of Malta fever, occurring in the United States, shows that 25 are melitensis infections and 51 are abortus infections.
- 2.—The melitensis infections occurred in a rather limited area, the Southwest, where goats are raised.
- 3.—The abortus infections were generally distributed throughout the United States.
- 4.—According to the board of health reports, the disease is much more prevalent than the literature would indicate.
- 5.—The disease occurs during all age periods, but predominantly during adult life.
- 6.—The disease is apparently much more frequent among males than females.
- 7.—Occupation played no special role, except in the melitensis infections, where there was a history of close contact with goats*.
- 8.—Insidious onset was the rule in both melitensis and abortus infections.

*This statement has been contradicted by some other writers, who declare that most abortus infections occur in those who work with cattle or swine.—Ed.

9.—The physical findings were in no way characteristic.

10.—Gastrointestinal symptoms were frequent in both infections. Constipation was much more frequent in the melitensis cases.

11.—Orchitis was a frequent complication in the melitensis cases.

12.—The organism was recovered, from both the blood and urine, more readily in the melitensis infections.

13.—Leucopenia or normal white cell counts were the rule, and there was frequently a lymphocytosis.

14.—The disease may be present and the organism recovered in the absence of positive agglutination reactions. It is important to seek the reaction in all dilutions, as a proagglutinozone may be present.

15.—The melitensis infections were generally more typical and more severe than the abortus infections.

Acrodynia

In an article in *Le Monde Méd.*, Paris, Jan. 15, 1930, Drs. R. De Bre and S. De Cosmi, discuss the clinical aspects and various types of acrodynia in infants. About 86 percent of the observed cases of acrodynia are seen in infancy and early childhood.

Erythremia and erythredema are very characteristic, but are not invariably present. An analysis of the symptomatology shows that acrodynia has a characteristic picture: Mental disturbances, erythredema of the extremities, a neuromuscular syndrome and circulation disturbances. When fully established, the condition is easily diagnosed.

Recovery within few months is the rule; but there are cases which end in a gangrenous mutilation of the extremities, or even fatally.

Apart from general hygienic care of the child, the only medication that the authors recommend is ultraviolet radiation.

The Salicylates and Acidosis

The impression is more or less generally held that large doses of salicylates cause acidosis. To test the validity of this impression, Dr. C. C. Johnson, of the Dept. of Pharmacology, Stanford University School of Medicine, Calif., carried out extensive animal experiments, the results of which are given in *J.A.M.A.*, Mar. 15, 1930.

These results showed that, without question, the readily absorbable salicylates—sodium and ammonium salicylates and acetylsalicylic acid—in dosage equivalent to the full therapeutic dose, administered either orally or hypodermically, do cause a definite and generally marked respiratory stimulation, with depletion of the alkali reserve of the blood in an amount equal to about 10 percent. The genuineness of salicylate acidosis was thus fully established.

Cinchophen, which is closely related, pharmacologically and therapeutically, to the salicylates, was also tested, but there were no important effects on respiration and there were no changes in the alkali reserve of the blood

following its use. The clinical use of cinchophen, therefore, is not followed by acidosis.

In the discussion it was pointed out that methyl salicylate, which is still used largely by physicians, does not cause acidosis, owing to its poor and irregular absorption from the alimentary tract. On this account, this therapy is apt to result in overdosage and toxicity.

Spider Bite

In *Ann. Intern. Med.*, Mar., 1930, Dr. J. B. Ellis, of Helena, Ark., reports 5 cases of poisoning by the *Latrodectus mactans*, the only known poisonous spider in the United States. Although cases of this kind are fairly numerous in South America, Australia and elsewhere, they are rare in the United States.

The symptoms of arachnidism, are, first, acute burning pain at the site of the bite, followed by backache, headache, and cramping, aching pains of the abdomen and legs. There are sensations of heat and cold in the body and legs, profuse perspiration, restlessness and rapid, difficult breathing. The bite mark clears up quickly, the symptoms gradually recede.

Intramuscular injection of convalescent immune serum offers the most logical and effective specific treatment.

Control of Shock Following Hypodermic Medication

In *J.A.M.A.*, Mar. 15, 1930, Dr. S. W. Isley, of Detroit, reports his observation that allergic shock reactions following subcutaneous immunizing injections could be controlled through regulation of the rate of absorption of the injected drug by immediately adjusting a blood pressure cuff above the site of injection.

Experience with more than 3,000 immunizing injections has shown that the pressure need not necessarily be sufficient to cut off the arterial flow; it should be sufficient to cut off not only the venous return but also lymphatic seepage (from 100 to 120 mm. of mercury). After 2 minutes this is lowered to 80 mm., and to 60 mm. four minutes later, following which the pressure is raised or lowered according to the patient's reactions. The total length of time that any pressure need be maintained is rarely more than 60 minutes.

The author thinks that this procedure is a desirable addition to any routine technic of desensitization or serum inoculation. Clinical tests have proved that it is applicable in these cases of allergic shock.

Dr. W. W. Dukes, of Kansas City, reports also on this method. He has found that reac-

tions from pollen therapy can be reduced to an almost negligible factor through control of dissemination of the pollen from the site of inoculation by the use of tourniquets above the site of inoculation, the admixture of epinephrin and ephedrine with pollen solutions, the use of a given standard of volume for solutions injected and the avoidance of intravenous injections through the use of the subcuticular method.

Relief Measures During Delivery

On the basis of 435 consecutive hospital births, Dr. H. Schoeneck, of Syracuse, N. Y., as reported in *New York St. J. Med.*, Dec., 1929, has made a comparison of the safety and effectiveness of spontaneous delivery with various other methods in which birth was assisted by forceps, version, etc.

On the basis of fetal mortality, maternal morbidity and the frequency of lacerations of the cervix and perineum, the safest method of delivery, for mother and child, is a spontaneous labor.

Prophylactic use of forceps, if done at the outlet or when the presenting part is on the perineum, stands next in order of safety. If performed when the head is riding high, there is a marked increase in morbidity. The risk to the baby is increased, as well as the incidence and degree of tears of the cervix, perineum and fascial supports of the uterus, bladder and rectum.

Prophylactic version carried, not only the highest morbidity and percentage of tears, but yielded the only fetal mortalities in this series.

The administration of morphine and scopolamine to obtain amnesia avoids the harmful effects of the mental and physical sufferings of childbirth. If version or prophylactic forceps supplements the administration of morphine and scopolamine, the benefits accruing from the drugs are enhanced.

In 200 cases delivered immediately following the above 435 deliveries, Gwathmey's rectal anesthesia, combined with morphine and scopolamine, was used, and a solution of *acriflavine*, 5 percent in 50 percent alcohol and 10 percent acetone, was used as an antiseptic in place of iodine. Three ounces of this preparation were instilled in the vagina at the beginning of labor and at the time of delivery it was applied to the vulva, perineum, thighs and lower abdomen.

Excluding cases of navelitis, engorged breasts and respiratory infections, a startling drop in morbidity occurred. The general morbidity rate was only 1.8 percent, as compared even with 3.7 percent in spontaneous labors without such measures of relief.

NEW BOOKS

White: Cancer of Breast

CANCER OF THE BREAST. By William Crawford White, M.D., F.A.C.S., Junior Surgeon To The Roosevelt Hospital, Consulting Surgeon To The New York Nursery And Child's Hospital, Fellow, N. Y. Surgical Society. New York and London: Harper and Brothers. 1930. Price \$3.00.

The importance of cancer of the human breast cannot be overestimated. Fortunately the wide propaganda, both national and local, given to the nature of the disease and its disastrous consequences has brought cases to physicians earlier, with a resulting great diminution in mortality.

The object of the present volume—one of Harper's Medical Monograph series—is to treat adequately the etiology, symptomatology and diagnosis of the disease; but more especially to dwell on the treatment, including surgical and x-ray and radium methods. The operative measures are considered, not only from the point of view of protection against metastatic spread, but also from the plastic and mutilating view points.

In regard to diagnosis, the general practitioner is now, to a great extent, relieved of the responsibility, as it is deemed proper practice, as soon as any suspicious lesion appears in the breast of a woman, to hand the patient over to a surgeon and let the pathologist decide the nature of the growth. Of course it is still within the province of the practitioner to make his own biopsy and the book contains a chapter on pathologic technic which will be helpful to him in this respect.

The monograph contains all the essentials that a physician not specializing in cancer should know regarding malignant disease of the breast, stated so clearly and directly that no question of meaning need arise.

Burr: Psychology and Psychiatry

PRACTICAL PSYCHOLOGY AND PSYCHIATRY. For use in Training-Schools for Attendants and Nurses and in Medical Classes, and as a Ready Reference for the Practitioner. By C. B. Burr, M.D., Late Medical Director Oak Grove Hospital, (Flint, Mich.), for Mental and Nervous Diseases; Member of the American Psychiatric Association; etc. Sixth Edition, Revised and Enlarged, with Illustrations. Philadelphia: F. A. Davis Company. 1930. Price \$2.75.

It is well that discussions of the mind—its functions and aberrations—in terms readily understood by the general run of physicians, and even by laymen, are appearing with greater frequency.

This contribution is one of the best for medical students, practitioners and nurses. It is written by a man with adequate knowledge of his subject, so that he writes easily, in a pleasing and conversational style, and with strong personal opinions which, happily, he makes no effort to conceal. Such a book is a real teaching force and is worth anyone's time to read.

The first 100 pages contain a clear and logical presentation of the essential facts of psychology as now understood; Part II deals with symbolism, in sanity and insanity; Part III with a brief and simple discussion of the various types of psychoses; Part IV with the management of psychotic patients, from the standpoint of the physician and the nurse; Part V is devoted to the prevention of insanity.

Every page in the book is pleasant and informative reading; but, in connection with the chapters on mental hygiene, one wishes that these might be printed in pamphlet form and placed in the hands of every parent and prospective parent in this country.

This volume is unhesitatingly recommended to all practitioners, medical students and nurses, as being one of the most lucid, helpful and pleasant presentations of the subject which has yet appeared.

Stroganoff: Eclampsia

THE IMPROVED PROPHYLACTIC METHOD IN THE TREATMENT OF ECLAMPSIA. By Prof. W. Stroganoff, Honorary Fellow of the Royal Academy of Medicine in Ireland, and Obstetrical-Gynecological Societies of Belgium, Edinburgh, Leningrad and Moscow. Third Edition, Thoroughly Revised and Completed. First English Edition. New York: William Wood & Co. Edinburgh: E. & S. Livingstone. 16 & 17 Teviot Place. 1930. Price \$3.50.

In the United States, Professor Stroganoff's prophylactic method of treating eclampsia has very little vogue. The prejudice which always exists in the minds of medical authorities against innovations is responsible for this and is only what was experienced in European countries until the Russian obstetrician's superior results forced the adoption of his method.

Stroganoff's method—the continued use of narcotics, with venesection when indicated, and delivery at an appropriate time—has now been before the profession for 30 years—ample time in which to judge it. The present book—the third Russian and first English edition—tells the tale and gives statistical and other information. The advocates of the operative treat-

ment of eclampsia would do well to peruse this book and weigh the results of prophylaxis with their own results.

General practitioners doing obstetric work will find Stroganoff's method of dealing with threatened or established eclampsia one that is easily within their scope and its more general adoption may be the means of saving the lives of many mothers and children—a consummation which, according to our statistics, we could easily afford to have happen.

McCollum & Simmonds: Nutrition

THE NEWER KNOWLEDGE OF NUTRITION. The Use of Foods for the Preservation of Vitality and Health. By E. V. McCollum, Ph.D., Sc.D., Professor of Chemical Hygiene, Johns Hopkins University, and Nina Simmonds, Formerly Associate Professor of Chemical Hygiene, Johns Hopkins University. Fourth Edition, Rewritten. New York: The Macmillan Company. 1929. Price \$5.00.

Members of the medical profession who are familiar with the previous editions of this book will be glad to know that the fourth edition is now available. Very important developments have taken place in our knowledge of nutrition. The early editions of this work were good, in their day, but developments have been so numerous since their appearance that a new one was necessary.

The newer developments in the field of nutrition, together with the earlier discoveries and historical treatment which were in the earlier editions, are included. Some parts of the third edition have been eliminated and others have been condensed. The fourth edition does not cover the field of nutrition quite so thoroughly as the third did, at the time it was written. Research work has been so extensive in recent years that, to make this edition cover the field completely, would necessitate more than one volume or a much larger volume than would be desirable.

Members of the medical profession must keep in touch with developments in nutrition and its relationship to medicine. This book will make it possible for them to do just that.

F.J.H.

Stekel: Sexual Aberrations

SEXUAL ABERRATIONS. The Phenomena Of Fetishism In Relation To Sex. By Dr. Wilhelm Stekel, Vienna. Authorized English Version From The First German Edition By Dr. S. Parker, Senior Physician, Psychopathic Department, Bellevue Hospital, New York City. Volume I and II. New York: Horace Liveright. 1930. Price 2 volumes \$10.00.

In these two volumes, Dr. Stekel presents a very detailed and exhaustive study of fetishism in relation to sex. The investigation is purely on Freudian lines of psychoanalysis and, especially, the analysis is conducted upon the dream fantasy, as giving the key to the phenomena.

The author believes that his analysis of the various actual cases (psychoanalysts will prob-

ably not consider the minutiae of presentation exaggerated) materially extends our understanding of the psychopathology of fetishism. To the author, fetishism is a continuation of impulsive conduct; it constitutes a transition to the important subject of sadism.

The various chapters take up the analysis of the association of fetishistic phenomena with other sexual or psychic aberrations. Thus in Vol. I, fetishism and incest, sadism, kleptomania, etc. are taken up and illustrated by cases. In Vol. 2, particular types of fetishism (apron, shoe, tack and transvestism) are more particularly considered. The association of different articles of clothing and other symbols as fetishistic objects and their potency in arousing intense eroticism, almost to the exclusion of what are usually considered normal erotic stimulants, are traced back by psychoanalysis to profound impressions in infancy and early childhood, although, of course, the author does not exclude the idea that there may be some type of predisposition.

While Dr. Stekel's handling of this difficult study is masterful, from the psychoanalytic point of view, the reader who is not fully converted to this scientific method of approach will hardly be convinced of the accuracy or correctness of all the deductions drawn from the premises. Indeed many of them seem rather far-fetched and suggest that the facts are bent to fit theories, rather than a truly scientific method of making the theories correspond to the facts.

The chief value of this work, in the reviewer's opinion, lies in the very complete exposition of the case reports, as these, based on the subjects' own feelings and experiences, offer rich materials for investigators' studies in psychopathology, and especially psychopathia sexualis.

Rusby, Bliss and Ballard: Drugs

THE PROPERTIES AND USES OF DRUGS. By Henry H. Rusby, Ph.M., M.D., D.Sc., Dean and Professor of Materia Medica, College of Pharmacy, Columbia University, etc.; A. Richard Bliss, Jr., A.M., Ph.D., M.D., Dean of the School of Pharmacy; Chief of the Division of Pharmacology and Materia Medica, University of Tennessee (Memphis), etc.; and Charles W. Ballard, A.M., Ph.D., Ph.D., Associate Professor of Materia Medica and Director of the Microscopical Laboratory, College of Pharmacy, Columbia University; etc. Philadelphia: P. Blakiston's Son & Co., Inc., 1012 Walnut Street. 1930. Price \$6.50.

This textbook has been prepared for the definite purpose of meeting the requirements of the pharmacy student and the practicing pharmacist. The therapeutic aspect of drugs has only a subsidiary aspect here.

The list of drugs described includes all those in the Pharmacopeia and Formulary, as well as many others in common use but not included in these official publications. They are arranged in classes, according to their particular effects.

The book appears to fulfil satisfactorily the purposes for which it was written, as it gives the reader a general knowledge of the origin,

preparation, preservation and commerce of drugs, of adulterants commonly used and of general uses. It is not, however, nor apparently was it intended to be, a book for physicians.

There are appendices treating of sickroom apparatus, veterinary drugs and other matters of commercial value to the pharmacist.

We notice several typographic errors, especially in the latter part of the volume.

Daukes: Medical Museum

THE MEDICAL MUSEUM. Modern Developments, Organization and Technical Methods Based on a New System of Visual Teaching. By S. H. Daukes, O.B.E., M.D., D.P.H., D.T.M. & H., Director of the Wellcome Museum of Medical Science, Affiliated to the Bureau of Scientific Research. An Amplification of a Thesis Read for the Degree of M.D., Cambridge. London: The Wellcome Foundation, Ltd., Endsleigh Court, 33 Gordon Street, W.C. 1. 1930.

Most people are eye-minded. Seeing a thing makes a much stronger impression than does hearing or even reading about it. That is why museums are so valuable. Unfortunately, this method of teaching Medicine has not been used so fully as it deserves to be.

One of the best-organized institutions of this sort in the world is the Wellcome Museum of Medical Science, in London; and this volume is the story of that splendid teaching force, told in such a manner that others who have the opportunity can imitate it.

The book is invaluable to every actual or prospective curator of a medical museum, no matter how large or small, and should prove of great interest to many physicians, because of the numerous full-page photographs of the various exhibits which it contains.

Practical Medicine Series: Obstetrics and Gynecology

THE PRACTICAL MEDICINE SERIES. Comprising Eight Volumes on the Year's Progress in Medicine and Surgery. Obstetrics. Edited by Joseph B. DeLee, A.M., M.D., Prof. of Obstetrics, University of Chicago Medical School; etc. And J. P. Greenhill, B.S., M.D., F.A.C.S., Attending Obstetrician, Chicago Lying-in Hospital and Dispensary; etc. Gynecology. Edited by John Osborn Polak, M.D., Professor of Gynecology, Long Island College Hospital, Brooklyn, N. Y. Series 1929. Chicago: The Year Book Publishers, 304 So. Dearborn St. Price \$2.50.

The 1929 volume on obstetrics and gynecology of this excellent yearly review of medicine and surgery seems to be quite up to the usual standard.

The abstracts are full and cover the practical points that are looked for by the man who is concerned with working data, rather than theory. The editorial remarks, coming as they do from editors of unquestioned standing, give a valuable criticism on new or suggested improved procedures which will guide those of less experience in regard to their value. The present volume is quite rich in such editorial criticism.

These annual reviews of the literature form an excellent post-graduate course for those whose opportunities to know what progress is being made are limited.

Toomey: Skin Diseases

THE TREATMENT OF SKIN DISEASES IN DETAIL. By Noxon Toomey, M.D., B.A., F.A.C.P., Late Instructor in Dermatology, St. Louis University, Major and Surgeon, 138th Infantry, Mo. N.G.; Dermatologist to the Terminal Railroad, Sometime Editor of the Urologic and Cutaneous Review. Volume Three of Principles and Practice of Dermatology. Saint Louis: The Lister Medical Press, Lister Bldg. 1930. Price \$7.50.

This is the last of the author's three-volume series of the principles and practice of dermatology and deals in detail with the treatment of skin diseases.

Dr. Toomey's object in this book is to present cutaneous therapeutics in a form originating in his own experience so far as possible, and he believes that it contains some original and useful contributions to the management of skin diseases.

All known skin diseases are included and discussed in groups arranged according to symptomatology and clinical aspects, rather than on etiology.

Modern Hospital Year Book

THE MODERN HOSPITAL YEAR BOOK. The Hospital Reference Book. An Annual Reference Volume on the Building, Equipment, Organization and Maintenance of Hospitals and Institutions. Published for Hospital Executives, Building and Equipment Committees, Purchasing Departments and Architects. 10th Edition. Chicago: The Modern Hospital Publishing Co., Inc., 919 North Michigan. 1930. Price \$2.50.

This is an indispensable reference volume for all who have to do with the administration and equipment of hospitals, including food supplies. The alphabetically arranged index (which occupies 80 pages) is most valuable and makes it possible to find the matter wanted immediately.

The book is a coordinated catalog of hospital equipment, with interspersed articles on special topics. Apart from the illustrations forming part of the advertisements, there are others accompanying the special articles. It is a guide to purchasing.

Love: Surgery

A SHORTER SURGERY. A Practical Manual for Senior Students. By R. J. McNeil Love, M.B., M.S., (Lond.), F.R.C.S. (Eng.), Assistant Surgeon, Metropolitan Hospital, Hunterian Professor, Royal College of Surgeons; Late First Surgical Assistant, London Hospital. Second Edition. With Seventy-Four Illustrations Including Thirty-One Plates (One Coloured). New York: William Wood & Company. 1930. Price \$5.00.

The scope of this short manual is that of a quiz compend in surgery, intended especially for senior students seeking to qualify in this

subject. As the author states, it is an attempt to condense and crystallize the more important principles of surgery.

The 27 short chapters which make up the book cover the surgery of the various regions and organs, an outline of the principal surgical affections and their orthodox treatments being given. The presentation is clear, the style simple and concise and the purpose of the author is achieved. It is in no sense a textbook of surgery.

Lupton: Mathematics of Pharmacy

AIDS TO THE MATHEMATICS OF PHARMACY. By Arthur W. Lupton, M.C., Ph. C., Joint Principal, Leeds College of Pharmacy; One Time Member of Board of Examiners for England and Wales of the Pharmaceutical Society. New York: William Wood and Company. 1930. Price \$1.50.

This little student's aid deals with the mathematical side of pharmacy and will be useful, not only to those presenting themselves for examination, but for practicing pharmacists and others, in calculating percentages of solutions and compounds. A number of "short cut" methods of making such calculations are given.

Sahli: Clinical Diagnosis

LEHRBUCH DER KLINISCHEN UNTERSUCHUNGSMETHODEN für Studierende und praktische Ärzte. Von Prof. Dr. H. Sahli, Em. Direktor der medizinischen Universitätsklinik in Bern. Siebente, Umgearbeitete und Ergänzte Auflage. II. Band, 1. Hälfte. Mit 92 Textabbildungen. Leipzig und Wien: Franz Deuticke. 1930. Price M 22.—S. 33.—

The first part of the second volume of the seventh edition of Professor Sahli's well known textbook of clinical diagnosis covers the examination of the urine (both quantitative and qualitative), functional testing of the kidneys and liver, examination of the sputum and of the blood.

The reputation of the author and the appreciation of previous editions guarantee the high-class nature of this diagnostic work.

Gordon-Taylor: The Dramatic in Surgery

THE DRAMATIC IN SURGERY. By Gordon Gordon-Taylor, O.B.E., M.A., F.R.C.S., Surgeon to The Middlesex Hospital. New York: William Wood and Company. 1930. Price \$4.00.

Surgery is not prosaic. That surgeon, not acting temerarily, who took the pulsating human heart in his left hand while with the fingers of the right he moved a contained bullet to the edge of the viscus, incised it and forced out the missile, bringing his patient to a successful issue, must have felt a dramatic thrill!

Dr. Gordon-Taylor's little book tells us of incidents in surgery like this, especially of feats during the great War. The short volume is an interesting one, written in a pleasing and

conversational style. The facts related will bring home to every surgeon those dramatic moments in the practice of his art which every wielder of the scalpel must have experienced.

The book is excellently made up and the colored and other illustrations are very commendable.

Cooper: Contraceptive Methods

AN OUTLINE OF CONTRACEPTIVE METHODS. For physicians and medical students exclusively. By James F. Cooper, M.D., Medical Director of the American Birth Control League; formerly professor of clinical surgery, Foochow Union Medical College, Foochow, China; etc. New York: American Birth Control League, 152 Madison Avenue. 1930. Price \$0.50.

The curriculums of most medical colleges are almost or entirely devoid of any instruction regarding the extremely important matter of contraception which, in many cases, may be an indispensable therapeutic measure for the preservation of health or life.

In this little booklet, which can be read in less than an hour, Dr. Cooper has summarized the indications for contraception and listed the various chemical and mechanical measures which have proved successful, with brief discussions of the technic of their use.

This is not a substitute for the author's large book, which was reviewed in these columns (C. M. & S., Aug., 1928, p. 621), but forms an interesting and valuable introduction to the subject, which should be in the hands of all medical students and of such practitioners as have had no instruction along these lines.

Kelly: Regulation of Physicians by Law

REGULATION OF PHYSICIANS BY LAW. A Dissertation On Regulation By Law of The Occupation Of Healing Diseases Of Human Beings. By Harry Eugene Kelly, of The Chicago Bar. Chicago: American Medical Association. 1925. Price \$1.25.

As stated by the author in the preface, this little handbook is an argumentative statement of the situation respecting legislative regulation of the occupation of treating diseases and injuries and physical and mental abnormalities of human beings, as he sees it after studying the matter for more than twenty years.

The object aimed at is to explain the legal substance of such regulation to physicians, the medical substance of it to lawyers, and both to laymen, and to acquaint all public officers with its general character and purpose.

Lieferant: Doctors' Wives

DOCTORS' WIVES. By Henry and Sylvia Lieferant. Boston: Little, Brown and Company. 1930. Price \$2.50.

This is a story dealing with characters of every day life, but which infrequently find their way into fiction. It is so well written that the sex obsession which runs through it is veiled. The style is rather unusual. The words are well chosen and conversation introduces the characters very cleverly.

Every girl who contemplates marrying into the medical profession should read it, as it is very illuminating and should be helpful in orienting them and showing the how not to behave. Many sacrifices are necessary in order to be a good doctor's wife; and a good wife is of inestimable help in the life of a busy and conscientious physician.

No jealous woman should ever marry a doctor. Jealousy of any type is out of the question: his patients, his time, his ability, the respect and confidence he inspires in his patients—a wife must be glad he has all these and make the time they have together doubly happy, because of the very scarcity of that time.

Nurses are good wives for doctors, because they can get their view point and understand their devotion to their patients. Nina (the heroine) was able to conquer many of her objectionable traits after her hospital training.

The characters are well drawn, although one hopes that such people are not too common, and the story holds one's interest and is well worth reading, especially by doctors and their wives.

M.B.L. (A doctor's wife).

Schellberg: Colonic Therapy

LECTURES ON COLONIC THERAPY. Its indications, Technic and Results. By O. Boto Schellberg, New York City. New York: The Oboschell Corporation, 172 Chambers St. 1930. Price \$2.00.

This pamphlet is mainly descriptive of the author's apparatus for colonic irrigation, its indications, technic and results, with the physiologic data on which it is based.

Elwyn: Physiology (Popular)

YOURSELF, INC. The Story of The Human Body. By Adolph Elwyn, Department of Neurology, Columbia University. New York: Brentano's. Price \$3.50. 1930.

The story of the human body is told by the author in a manner which should be as fascinating to laymen as is a well-written novel.

The human body, with all its attributes, is considered as an incorporation or industrial organization, in which all the functions and organic structures, down to the component cells, are considered as parts. The directing powers—the nervous system—and the working forces—the transport of materials, their elaboration into utilizable products, the machinery for the manifold activities and the disposal of wastes—are all concerned in a smoothly-working, coordinated whole.

An old gentleman once declared that he was sixty years old before he discovered that Cape Breton was an island. Many people reach this age without knowing that they have a body; that is to say, knowing anything of the marvelous mechanism and processes of which their

own personality is the consummate expression.

The author's language is simple, clear and expressive. He has succeeded in presenting abstruse scientific data in an elementary way that will be easily understood by the average man or woman, and the anatomic and physiologic facts do not call for any deep thinking in order to be grasped.

The typography is excellent, clear and legible and the paper of an extra-good quality.

Physicians may recommend this book to their lay friends and patients with confidence.

Medical Clinics of North America

THE MEDICAL CLINICS OF NORTH AMERICA. Chicago Number. Volume 13, Number 5, March, 1930. Philadelphia and London: W. B. Saunders Company. Issued serially, one number every other month. Per Clinic year, July, 1929 to May, 1930: Paper, \$12.00; Cloth, \$16.00 net.

The March number of the Clinics is devoted to contributions from Chicago authors.

While, of course, most interesting from the clinical and educational standpoints, the majority of these contributions deal with conditions which, if not rare, do not often come within the purview of the general practitioner.

The following papers should be of general interest: "Appendicitis in Children," by Dr. J. R. Gerstley; "Heart Failure," by Dr. W. A. Brams; "Putrid Epyema as a Postoperative Complication," by Dr. I. Pilot; "Three Illustrative Cases of Endocrine Disorders," by Dr. J. H. Hutton; and "Dermatologic Affections in Children," by Dr. C. W. Finnerud.

Perusal of the papers offered in these Clinics and study of the methods of clinical handling of the cases presented form a most excellent substitute for a postgraduate course, for those who have neither the facilities nor the time to obtain one.

Landesmann-Frölich: Therapeutics

DIE THERAPIE AN DEN WIENER KLINIKEN. Begründet von Dr. Ernst Landesmann, gew. Sekundärarzt des Wiener Allgemeinen Krankenhauses, derzeit praktischer Arzt in Brünn. Elfte, vollständig umgearbeitete Auflage. Herausgegeben von Prof. Dr. Alfred Frölich. Leipzig und Wien: Franz Deuticke. 1930. Price geh. M 35.20, geb. S 49.80.

The present edition of this popular work is divided into two main parts: the nonoperative and operative. The chapters in each part, dealing with regional diseases or with special classes of diseases, are written by specialists of the Vienna clinic.

Owing to the vast amount of matter to be covered in a space of about 800 pages, the treatment is, necessarily, merely outlined, but the reader has the satisfaction of knowing that such an outline tells him the general treatment adopted in one of the world's famous clinics.

MEDICAL NEWS



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Horseless Transportation in the Leeward Islands

The tiny Dutch island of Saba, in the West Indies, has only 500 inhabitants and cannot support a physician, so, when one of the natives is taken ill, they bring a doctor from one of the other Leeward Islands, in the primitive manner shown above.

If you missed the prize offers on page 6 of the January **CLIN. MED. AND SURG.**, look them up or write for particulars.

Maggot Treatment

Mount Alto Veterans' Hospital, of Washington, D. C., is to be made a training center for Veterans' Bureau hospital physicians learning the Baer method of treating osteomyelitis with maggots. — *Science Service.*

A Medical Newspaper

Paris, France, has a semi-monthly newspaper devoted to medical articles and news of interest to the profession. The last page is devoted to dental matters. It has the size and general appearance of an or-

dinary newspaper, and each issue runs about 14 pages. It is surprising what a large amount of snappy newsy material they publish.

Physician and Poet Laureate

Few who have read the poetry of **Robert Bridges**, Poet Laureate of England, who passed to his rest April 21, 1930, at the age of eighty-five years, have realized that he was a successful physician before the urge to poetic expression separated him from the ranks of the practitioners.

The poetry of Dr. Bridges is, no doubt of a severely classical type, which appealed more to persons of high and formal literary culture than to ordinary mortals, but, in some of his writings, the humanism of the physician was blended with his scholarly attainments to produce works of great beauty and power.

Dog Eat Dog

A scientist in the Department of Agriculture dissected a nematode one-twenty-fifth of an inch long and removed from it another nematode it had swallowed

Congress of Stomatology

The president of the Italian Stomatologic Federation extends a cordial invitation to all American stomatologists and dentists to take part in the nineteenth Italian Stomatologic Congress, which will convene in Venice from September 15 to 21, 1930, inclusive.

This meeting is sponsored by the International Stomatologic Association and reduced rates, special privileges and other courtesies will be extended to American delegates.

Full particulars and application forms may be obtained from Dr. M. E. Josephson, 993 Park Ave., New York City.



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Dr. G. Ramon

The French physician and investigator, Dr. G. Ramon, of the Pasteur Institute, has produced an antitoxic vaccine against diphtheria, which may be given through or in the nose, and which is considered to be of such value that the French Academy of Medicine is trying to have its general use made compulsory. He has prepared a similar antiviral against tetanus. Reports of his work have appeared in the French professional journals.

The young doctor has a chance to show his mettle. Read the editorial on page 6, *CLIN. MED. AND SURG.* for January, 1930.

Gorgas Institute Prizes

The second annual essay contest, open to high school students and conducted under the auspices of the Gorgas Memorial Institute, has recently closed, and the Charles

R. Walgreen prize of \$500, plus transportation to Washington, D. C., for the presentation by President Hoover, was awarded to Pauline Lodge, a senior in the high school at Lakewood, Ohio. The second prize (\$250) went to Canascia Duncan, of Omaha, Nebr., and the third (\$100) to William Lennon, Willimantic, Conn.

United States Civil Service Examination

The United States Civil Service Commission announces the following open competitive examination:

Physiotherapy Aide Physiotherapy Assistant

Applications must be one file with the Civil Service Commission at Washington, D. C., not later than June 24, 1930.

Associate Medical Officer (Pathology)

Applications will be rated as received by the Civil Service Commission at Washington, D. C., until June 30, 1930.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the Secretary of the United States Civil Service Board of Examiners at the post office or custom-house in any city.

The rare chance to receive pay for a medical article is offered on page 6 of the January, 1930, *CLIN. MED. AND SURG.*

Course in Neurology and Psychiatry

Special systematic courses for postgraduate study in neurology and psychiatry will be given June 25th to July 29th, 1930, in English, at Prof. Wagner von Jauregg's Neuropsychiatric Clinic, at the head of which is now Prof. Pötzyl, and at the Neurological institute of Prof. Marburg, Vienna University, Austria, under the auspices of the Americal Medical Association of Vienna.

For full information, write at once to Dr. George W. Mackenzie, 1724 Spruce St., Philadelphia, Pa.

Send For This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physician's supplies, foods, etc., CLINICAL MEDICINE and SURGERY, North Chicago, Ill., will gladly forward request for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is

to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

When requesting literature, please specify whether you are a doctor of medicine, dentist, medical student, a registered pharmacist, or a nurse.

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| D- 2 | Your Prestige and Profit. 8-page booklet. The Carroll Dunham Smith Pharmacal Co. | D-196 | "Facts Worth Knowing. Intravenous Products Co. of America, Inc. |
| D- 3 | Storm Binder and Abdominal Supporter. 4-page folder by Dr. Katharine L. Storm. | D-244 | I Am Oxiphen! Pitman-Moore Co. |
| D- 5 | Ethical Medicinal Specialities. 8-page booklet. A. H. Robins Co. | D-256 | The Modern Way of Giving Digitalis. Upsher Smith Co. |
| D- 17 | An Index of Treatment. Burnham Soluble Iodine Co. | D-258 | Prophylaxis. August E. Drucker Co. |
| D- 45 | Vera-Perles of Sandelwood Comp. Paul Plessner Co. | D-268 | Eat Uncle Sam Health Food. Uncle Sam Breakfast Food Co. |
| D- 47 | Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company. | D-269 | Special Course No. VI Traumatic Surgery. Illinois Post Graduate Medical School, Inc. |
| D- 49 | The Calcreose Detail Man. Maltbie Chemical Co. | D-271 | The Intestinal Flora. The Battle Creek Food Company. |
| D- 95 | Everything for the Sick. Lindsay Laboratories. | D-286 | Ultra Violet Therapy in Your Office. A. S. Aloe Co. |
| D-103 | The Electron, May-June, 1930. McIntosh Electrical Corporation. | D-292 | Acidosis and Infection—Alka Zane. William R. Warner & Co., Inc. |
| D-116 | Hemo Glycogen, The New Product Hemoglobin Compound and Liver Extract. Chappel Bros., Inc. | D-301 | Merrell's Salicylates. The Wm. S. Merrell Company. |
| D-120 | Building Resistance — Guaitonic. William R. Warner & Co., Ltd. | D-310 | Conclusions from published research of the value of Ceanothyn as a hemostatic. Flint, Eaton & Co. |
| D-156 | Siomine (Methenamine Tetraiodide). Pitman-Moore Company. | D-318 | Blood Clinical and Laboratory Diagnosis. A book of 160 pages by Henry Irving Berger, M.D., Battle & Company. |
| | | D-335 | The Bloodless Phlebotomist. The Denver Chemical Manufacturing Company. |

- D-336 The Secret of Our Digestive Glands. J. W. Wuppermann Angostura Bitters Agency, Inc.
- D-347 A Graphic Chart of the Treatment of Circulatory Disturbances. Merck & Company.
- D-354 Getting the Most Out of Life. Stanco, Inc.
- D-369 Burdick Zoalite Series for Infra Red Therapy. The Burdick Corporation.
- D-374 Table for Determining Date of Delivery. The Viburno Company, Inc.
- D-377 All that joyous Aroma but less Nicotine. Health Cigar Co.
- D-379 Endocrine and other Organotherapeutic preparations. Armour and Company.
- D-382 Three Aces and All Council Accepted. Bilhuber-Knoll Corp.
- D-388 Syrup Histosan Controls the Cough In Acute and Chronic Bronchitis, Pneumonia and other Pulmonary Diseases. Ernst Bischoff Co., Inc.
- D-391 Imhotep. Egyptian Medicine Was a Quaint Mixture of Rationalism and Magic — Agarol. William R. Warner & Co., Inc.
- D-392 Arthritis, Its Classification and Treatment. Battle & Co.
- D-396 Rational Relief of Postpartum Pains through Gynodyne Therapy. Schering & Glatz, Inc.
- D-399 Nitium, Crayon, Ovule, a Medication Radioactive. High Chemical Co.
- D-401 When the Cross Roads are Reached in Hemorrhoids (Piles) Schering & Glatz, Inc.
- D-402 The First Question—Agarol. Wm. R. Warner & Co., Inc.
- D-404 Urotropin, the Intravenous Administration of the Original Formaldehyde-Liberating Urinary and Systemic Antiseptic. Schering & Glatz.
- D-405 30 "Tilden" Cough Syrups from the Oldest Manufacturing Pharmaceutical House in America. The Tilden Company.
- D-406 Produces Consistent Results in Asthenia, Low blood-pressure, Slow convalescence, Run-down conditions. The Harrower Laboratory, Inc.
- D-408 When colds hang on and coughs are stubborn remember the effectiveness of Thiocol. Hoffmann-La Roche, Inc.
- D-410 Acidosis. A Warning Sign In Pregnancy.—Alka-Zane. Wm. R. Warner & Co., Inc.
- D-412 The New Colloidal Antacid. The Wander Co.
- D-414 Laboratory Tests in Pictures—Silvo-Gen. Ernst Bischoff Company, Inc.
- D-415 Allonal, "Roche," Its Indications in Various Fields of Medicine and Surgery. Hoffmann-La Roche, Inc.
- D-416 Obesity, Its Types and Treatment. Battle & Co.
- D-418 Diphtheria Can Be Kept from Your Family by Protective Immunization. The National Drug Co.
- D-419 Pneumonia, Special Reference to Treatment with Anti-Pneumococcic Serum. The National Drug Co.
- D-420 That Delicious Flavor. Angostura Dry, the New Ginger Ale. J. W. Wuppermann Angostura Bitters Agency, Inc.
- D-421 Colonic Therapy by O. Boto Schellberg, Schellberg Mfg. Corporation.
- D-422 The Rationale of Cecal Medication by O. Boto Schellberg. Schellberg Mfg. Corporation.
- D-423 Four Active Products, Thyro-Ovarian Co., Pan-Secretin Co., Lydin, and Anabolin. The Harrower Laboratory, Inc.
- D-424 When Chemists Turned from Gold to Drugs, Pantopon, Roche. Hoffmann-La Roche, Inc.
- D-425 Cerebrospinal Fever (Epidemic, Cerebrospinal Meningitis, Meningococcic Meningitis, Spotted Fever), Symptoms and Specific Treatment with Anti-Meningococcic Serum. The National Drug Company.
- D-426 Our Complete Line of Physiotherapy and Health Equipment. Health Equipment Company.
- D-427 Light Therapy. Britesun, Inc.
- D-428 Light Therapy. The Burdick Corp.
- D-429 Eupinol, a distillate produced at a special temperature from the resinous wood of Pinus Palustris. The Tilden Company.
- D-430 Three Timely Papers. McIntosh Electrical Corporation.